Clinical Lecture
ON
OSTEO-MYELITIS AND ACUTE PERIOSTITIS.

BY C. MACNAMARA, F.C.U.,
SURGEON TO THE WESTMINSTER HOSPITAL.

GENTLEMEN,—I shall direct your attention to-day, first, to the subject of osteo-myelitis, or inflammation of the contents of the medullary and Haversian canals, including the spaces in the spongy portion of the long bones; and, secondly, briefly consider the effects produced by this form of disease as compared with that caused by periostitis.

Osteo-myelitis may be either acute or chronic in its course, but, unless as a complication following operations or injuries of the long bones, the acute form of the disease is not often met with in this country. On the other hand, chronic inflammation of the contents of the spongy portions of various bones is a fertile source of mischief, not only to the osseous tissue, but also to joints situated in the proximity of the disease, because, as I shall subsequently explain to you, a cavity of this kind affords the easiest exit to the products of the inflamed structures. You are aware that in the soft tissues of the body the materials arising from the process of inflammation are, as a rule, prevented from entering the blood, not only by the contraction and plugging of the vessels surrounding the inflamed area, but also in consequence of the new cell-formation which occurs in the part effectually closing the capillaries, and probably preventing the absorption of putrid material into the circulation through the radicles of the lymphatic system. And there can be no doubt that in instances of chronic osteitis the surrounding Haversian canals and medullary spaces become occluded; nevertheless, the formation of the vascular system in bone is eminently adapted for the absorption into the circulation of putrid matter formed in it, and hence we find in practice that over and above the death of the bone resulting from acute osteo-myelitis the patient runs a very great risk from pyæmia. Professor Longmore has noticed that, after trivial gunshot injuries involving the periosteum, acute inflammation of the contents of the medullary canal sometimes occurred, followed by the death of the patient from septicæmia. But Sir J. Fayrer has without doubt done more to elucidate the circumstances of osteo-myelitis than any other living authority, a large portion of his experience, like my own, having been acquired in the tropics, where osteo-myelitis and pyæmia are more frequently met with than in this country. In fact, some ten years ago it was rather the exception than otherwise not to have osteo-myelitis among our hospital patients in Calcutta after amputations or compound fractures of the extremities. It is true that, stricter attention having been given to the sanitary condition of these institutions, and in my own practice, after the introduction of the antiseptic system of dressing, we lost fewer cases from pyæmia; but I confess that this improvement was partly due to other than atmospherical influences, because cases of osteitis and pyæmia sometimes occur without the admission of air into the inflamed parts—for instance, after injuries to the skull, although no breach of continuity of the scalp has taken place, I have seen the most rapid and deadly septic poisoning supervene,—but, as I said before, the carbolised spray and antiseptic dressing have, I believe, saved the lives of a considerable number of the patients in the hospital I was formerly attached to.

It does not seem to me that there is any great difficulty in diagnosing a case of osteo-myelitis, especially if the disease follows on injury to the bone. The patient under these circumstances may appear to be doing well for the first week or ten days after the operation: the stump or wound, as the case may be, perhaps looks in a satisfactory condition; there is no deep-seated pain or external signs of inflammation; but the patient's temperature rises suddenly, and he complains of rigors, or it may be only of a chill, followed by perspiration, his tongue becomes dry and brown, the pulse and breathing rapid, and the skin and conjunctiva assume a dull, yellowish appearance; but, above all, the temperature of the patient's body rises and falls suddenly within the course of a few hours. Symptoms such as these indicate pyæmia, and I need hardly remark they are different from those of ordinary surgical fever, which usually supervenes some twelve or sixteen hours after an operation. The patient's eye is bright and glistening, his face and forehead are flushed, the skin feeling healthy to the touch, though hot and dry; in fact, the difference between pyæmia and surgical fever are as distinct as that between any two members of the same family can well be, although it is not always easy to describe their characteristic features in words. The more closely, however, you watch these fevers at the bedside, the clearer will their respective peculiarities dawn upon you, and enable you, without hesitation, to give an opinion as to the form of fever from which your patient is suffering. But the symptoms I have referred to only allow us to arrive at the conclusion that the case is one of septic poisoning; they do not determine the point as to the existence or otherwise of osteo-myelitis. To satisfy ourselves on this matter we must pass a probe down to the medullary canal of the injured bone, and if we find that its cellular lining has been destroyed, and we discover bare bone for some distance along the course of the canal, we should not hesitate to lay open the wound, and accurately ascertain the state of the osseous tissue. It may possibly be that only limited necrosis exists, but in this case it is hardly likely that the pyæmia is the result of the absorption of putrid matter lodged in the osseous structures. In the early stages of osteo-myelitis the contents of the medullary canal may be seen protruding from the end of the bone as a red fungating mass; but this condition soon passes away, the contents of the canal suppurate, and we shall find it empty, its walls denuded of their lining membrane; in fact, necrosis of the bone surrounding the canal will have taken place. Under these circumstances, Sir J. Fayrer insists on the fact that the best chance we have of saving the patient's life is to amputate (or reamputate) the limb at, or above, the joint above the diseased bone; and I quite agree with him as to the necessity of this line of practice, for it is only by the entire removal of the source from which the putrid matter is being absorbed into the blood that we can hope to preserve the patient's life.

But, as I have before remarked, you are not to suppose that acute osteo-myelitis only occurs in cases of direct injury to the osseous tissue; for, as Mr. Savory and other authorities have observed, the exposure of a limb to sudden extremes of heat and cold, such as plunging the legs and feet into ice-cold or very warm water, may set up acute osteitis in the part exposed to treatment of this kind, and the case now under our treatment in St. Luke's ward is an instance in point.

W. S——, aged ten, was admitted into the Westminster Hospital on Feb. 8th. The patient's father and mother are strong and well-to-do country people; there is no suspicion of any marked hereditary disease in this case, and our patient, though slim, has been a very healthy boy up to the present time. He was perfectly well until December 20th, when, on his way home from school, he fell through the ice into a pool of water, and got his feet and legs wet. In this condition he returned to his cottage. The weather was very cold at the time, and in the evening his legs became extremely painful, and his mother, thinking he had rheumatism, applied hot poultices to his limbs. The patient has since been confined to his bed; his legs became much swollen; after some three weeks two abscesses burst in front of the right shin, and subsequently another formed over the ankle-joint, and discharged a small quantity of matter. The skin inflamed over the left foot in a similar manner. The patient was seen in January by Mr. T. Eager, of Woking, and, by his direction, removed as soon as practicable to the hospital. On admission we found that the right leg and foot were pale, swollen, and very œdematous, with three ulcers along the shin and over the ankle-joint; there was no discharge from these sores, but on passing a probe through the upper ones, we came down upon soft

disintegrated bone; the instrument could be thrust deeply into the dead bone. The left foot was affected in the same way. Our patient was much emaciated, with a dull jaundiced eye, dry brown tongue, a small very rapid pulse, and respiration 42 in the minute. His skin felt clammy, and was covered at times by profuse perspiration, the temperature of his body rising and falling rapidly from 101° to 105°. There could be no doubt as to his being under the influence of sceptic poisoning, arising in all human probability from the absorption of matter about the dead tibia.

I could not obtain permission to remove the limb until the 15th of February, when the leg was amputated at the knee-joint. The patient suffered from diarrhœa after the operation, and it was with some difficulty we managed to control the purging; but, with this exception, he has improved rapidly in health, and is now convalescent.

In passing, let me warn you not to think lightly of diarrhœa in cases of pyæmia, or to foster the notion that purging of this kind is an effort of nature to eliminate the poison from the system. My experience leads me to think that diarrhœa in these cases is an indication of extreme exhaustion, and, unless you can control it by means of opium and astringents, the prognosis must be a very unfavourable one.

But I would draw your attention to the condition of the amputated limb. The tibia I show you was taken from the leg immediately after it had been removed from the body, and it has since undergone no maceration or preparation of any kind, and you observe its cancellated structure and medullary canal are entirely destroyed. It looks just like a bit of old worm-eaten wood. The outer shell of the bone is more healthy than any other part of the tibia. And all this mischief has been the work of less than seven weeks' disease. The patient was suffering from great pain in the knee-joint before the operation, and, although the articular cartilages covering the lower end of the femur were found to be healthy, it was nevertheless a hazardous proceeding amputating as I did through the joint; for you must bear in mind the fact that there is a great tendency for osteo-myelitis to extend from the bone affected to contiguous bones, without the intervening joint (if there happen to be one) being affected. In fact, I think that pyæmia commencing from osteo-myelitis does not, as a rule, give rise to abscess in the joints; the lungs first, and then the liver, are the most common seats of those isolated spots of necrosed tissue which are generally described as secondary abscesses. If you examine the lower end of the tibia and the astragalus taken from W. S——'s leg, you will clearly appreciate the bearing of the remark I made regarding amputation through the knee-joint, for you will notice that there is a large isolated cavity in the lower end of the tibia, which was the seat of an abscess. The periosteum covering this portion of the bone, and that over the astragalus, is, as you observe, perfectly healthy. The cartilage lining the osseous surfaces of the ankle-joint is unaffected, but beneath the cartilage of the upper surface of the astragalus you see there is another cavity, the seat of a second abscess; and a similar abscess has formed in the cancellated tissue of the bone, and passing forwards, has burst into the astragalo-scaphoid articulation. But I would call your special attention to this deep red patch of cancellated tissue beneath the cartilage lining the lower surface of the bone; you may notice that it is surrounded by apparently healthy osseous tissue, the patch itself being a spot of highly inflamed bone. I have examined sections of the part under the microscope in the fresh state, and shall describe its condition to you in the next lecture; for the present, I may observe that we have in the inflamed spot an example of the earliest stage of the process which, after continuing for a time, has led to the abscesses above referred to in the astragalus, and which has reduced the tibia to the necrosed condition in which you now see it. But as I said before, this patch of inflamed tissue in the astragalus is separated by healthy bone from surrounding abscesses, and I have so often seen similar instances of acute osteo-myelitis leading to this condition that I urge you strongly, in amputating in cases of this kind, to cut beyond the joint next above the site of the disease.

Osteitis, however, is not by any means always the acute affection I have illustrated by the case of S——, for in the next bed to his there is a patient, H. T——, whose os calcis I excised some seventeen days since. The bone, as you see, is covered with healthy periosteum, but in its centre there is a cavity as large as the top of one's little finger, and from this, leading down to the lower surface of the bone, is a passage through which the products of the inflamed tissues found their way, but then meeting with resistance from the dense structures covering the heel, the matter had forced a passage up along the exterior of the bone, and burst through the skin on either side of the foot.

H. T—— was sent up by Dr. Ferris, of Uxbridge, and placed under my care in this hospital on the 2nd of March. He states that four years ago he thought he must have sprained his foot, as he was seized with violent pain in the heel; this lasted for some months, and then abscesses formed on either side of the heel, which burst and relieved the pain, but the wounds have continued to discharge ever since. The boy has enlarged cervical glands, and is doubtless of a strumous diathesis. On passing a probe through the fistulous openings no bare bone could be discovered; the reason of this is now apparent from the course the matter had taken to reach the surface. You will observe that the cavity in this os calcis contains no dead bone, and further that its walls are lined with a compact layer of osseous structure, corresponding to the walls of a chronic abscess of the soft parts of the body. But if in place of opening externally, as the collection of matter in this os calcis has done, the abscess had been so situated that the point of least resistance for the pus to have taken had been into a joint, the result would have been to excite changes in the part resulting in the destruction of the articulation. And this is doubtless the history of some cases of joint disease; or, in other words, chronic osteitis, though by no means always ending in abscess, occurring in the spongy ends of one of the long bones, may terminate in partial disintegration of the bone, and destruction of a neighbouring joint. On the other hand, it is quite possible that inflammation occurring in the cancellated tissue of bone may pass off without leading to further mischief in the part than a certain amount of enlargement and consolidation of the structures implicated in the diseased action.

It is hardly possible for me to draw your attention to more instructive specimens of diseased bone than those I now show you, as contrasted with the shaft of this fibula, which I lately excised from the leg of a little boy in Luke ward. In this instance we have an example of acute periostitis in contradistinction to inflammation, commencing in, and being chiefly confined to, the contents of the medullary and spongy portion of the bone; and you will observe the difference between the shaft of this tibia affected by osteo-myelitis, and this fibula in which the periosteum has been destroyed by acute inflammation. In the former specimen we have seen that the whole of the cancellated structure of the bone is necrosed; but in this fibula the external layers only of the bone are implicated, although it is absolutely bare of periosteum from end to end. The superficial layers of the bone are affected in this latter case because the external layers of the long bones grow from and receive their vessels through the periosteum; but, as we learn from a longitudinal section through the bone, the medullary canal and the cancellated tissue are perfectly healthy.

W. C——, aged six, was admitted into this hospital on Dec. 21st, 1875. He states that his schoolmistress struck him with a cane across the leg. The limb became swollen and very painful. The child's mother has lost the bone of her nose from disease, and the patient is a sickly-looking little fellow. On admission we found the right leg very much swollen, of brawny hardness, and there were all the indications of a deep-seated abscess in the muscles of the calf of the leg. On the 23rd a grooved needle was passed into the inflamed structure, but, as no matter appeared, a deep incision was made down to the bone, and a very considerable quantity of pus escaped from the wound. On the 27th another free cut was made along the lower part of the fibula so as to give free exit to the matter. Bare bone was distinctly felt, but we delayed further proceedings at the time because in some few cases of the kind the periosteum which has been separated from the bone by the products of inflammation, so soon as these have escaped, reunites to the osseous tissue, and considerable superficial necrosis of the shaft of the bone is prevented. But as the discharge in this case became very profuse indeed, and the child's health was rapidly failing, I cut down on the diseased bone, removed the whole of its shaft, leaving the upper and lower epiphyses *in situ*.

In this instance the inflammation of the periosteum followed a blow over the bone, and at first sight the case looked like one of abscess of the calf of the leg, but on passing a grooved needle down into the muscles no pus could be discovered, and we had to cut upon the bone before the matter flowed into the wound. Two free incisions were, therefore, made into the periosteum. The drain of matter from these was subsequently so profuse that it speedily began to tell on the boy's health, so that I had to remove the shaft of the bone, leaving, however, the upper and lower epiphysis, for they were covered with periosteum, and I expected that the greater part, if not the whole, of the bone would re-form from these epiphyses; and such has been the case. You can now distinctly trace the outlines of a new fibula under the cicatrix in the skin; in fact, the shaft of the bone has been partly re-formed. One of the most important practical lessons we may learn from the case is, that in "deep-seated abscesses," especially if they occur in the leg or thigh, pass your finger down through the opening you make to allow the pus to escape, and examine the condition of the bone, for in cases of this description you may discover that the inflammation has commenced in the periosteum, and spread outwards into the soft parts. Acute periostitis is not very frequently followed by pyæmia; at the same time, it occurs generally among debilitated children or in adults in bad health, and the separation of the dead from the living bone is a tedious process attended with profuse discharge, which in time may no less surely destroy the patient than pyæmia would in instances of osteo-myelitis.

In the next lecture I shall give you an account of the pathology of osteo-myelitis, and illustrate the subject by specimens prepared from the bones I have shown you to-day.

NOTES ON UTERINE PATHOLOGY.

BY GRAILY HEWITT, M.D., F.R.C.P.

II.—DESCRIPTION OF THE VARIOUS ABNORMAL CONDITIONS OF THE UTERINE TISSUES.

IT appears to be essential, to anything like an accurate estimation of the relation of the various pathological changes in the uterus one to the other, to examine carefully our present nomenclature and actual knowledge regarding the nature of the tissue-changes in the organ so frequently observed in connexion with distortions and other analogous alterations.

These tissue-changes have been described under various names—chronic inflammation, congestion, hypertrophy, atrophy, areolar hyperplasia (Gaillard Thomas), &c. &c. It need hardly be stated that under these various general designations are included conditions not seldom widely different.

For obvious reasons it will be advisable to limit our inquiries for the moment to the tissue-changes observed in the uterus in the *ante-puerperal* state; for when pregnancy has occurred other peculiar changes result, the consideration of which demands a separate inquiry. Tumours of the uterus are of course excluded.

Medical phrases are of unquestionable utility when they are intended to formulate some known fact or to represent a leading and dominant idea, but when a question is to be seriously debated they are frequently an impediment rather than a help. In attempting, therefore, a clinical description of the tissue-changes in the nulliparous uterus, it will be better as far as possible to avoid them.

The principal physical abnormal changes in the uterine tissues with which we are familiar by clinical observation are—(A) Softness, (B) hardness, (C) enlargement, and (D) diminution in bulk.

(A) *Softness.* By this is to be understood an absence of that degree of firmness and resistance which is natural to the healthy uterus. It is placed first in order because there are reasons, as will be shown, for attaching a high degree of importance to it as a pathological factor. Observation has convinced me that it is a physical change which occurs with great frequency in the early stage of chronic cases of uterine disease. The os and cervix uteri are readily to be felt, and hence this change is one very readily appreciated. The softness presents itself in all degrees. I have found the cervix so soft that its outline was rendered indistinct and closely—so far as its softness is concerned—resembling the state of the tissues of the os in advanced pregnancy. Naturally, as is well known, the vaginal portion of the cervix is very firm and resistant. This softness of the vaginal portion is generally associated with a like degree of softness of the body of the uterus, but in the case of the body of the uterus the change in texture is not so easily appreciable. The evidence of the existence of softness of the body of the uterus conjointly with softness of the os and cervix is of an inferential character, but it is clinically demonstrable. Existing by itself, undue softness of the uterus is not accompanied by exaltation of sensibility under ordinary circumstances. It is almost invariably accompanied by a more profuse secretion than usual from the mucous surfaces of the uterus. It is probably present to a slight degree during the normal process of menstruation, but in such a case the softening is not of course pathological.

Softness of the uterine tissues implies necessarily another quality—viz., pliability. Naturally this is a quality which the uterus possesses in a certain degree, but when the uterus is in a state of health it is compensated by the rigidity which the firmness and resistance of the healthy uterus offers to any attempt to bend it, and which, moreover, aids it in resuming its proper shape after being bent. The uterus is largely dependent, as I have been for some time accustomed to teach in my lectures, for maintenance in its erect position upon its own tissues, far more, indeed, than upon its outer attachments. Proportionately to the size of the uterine canal the thickness of the uterine walls is considerable, even at the part where the uterus is weakest—namely, at its centre. Deficient firmness in the uterine walls necessarily then implies an increased pliability of the organ, and clinical evidence abundantly shows that exceeding softness of the uterus is very frequently indeed conjoined with an extreme pliability. Not unfrequently the sole discoverable physical change present is this softness combined with undue pliability. There may be no tenderness to the touch, there may be no redness or increased vascularity to be observed by the eye at the os uteri, and there may be no increase in the bulk of the uterus; in fact, it may be even smaller than usual. The cases in which this softness, uncomplicated with other conditions, exists form a very important group, with which I have become acquainted by clinical observation alone, and, so far as I am aware, the bearing of the facts of these cases is a very wide and interesting one in any discussion on the subject of uterine pathology.

The cases in which this peculiar softness of the uterus presents itself in its typical form are those of young women who present other obvious indications of weakness, want of power, debility, and general feebleness. In a subsequent paper it will be shown how frequently such a condition of the uterus is responsible for the inability such patients experience in walking, owing to the circumstance that the uterus is so pliable that the mere assumption of the vertical position suffices to produce a marked degree of flexion, which may be temporary or become subsequently persistent.

My purpose now, however, is to endeavour to arrive at an intelligible explanation of the undue softness.

It is some few years now since Scanzoni published his valuable monograph on "Chronic Metritis." In that work he very forcibly dilates on the circumstance that the so-called chronic inflammatory changes in the uterus would be more correctly looked upon as chronic nutrition disturbances. This view has always strongly commended itself to my mind, and the observations which I have accumulated in the course of some years would seem abundantly to support this conclusion.

Applying these common-sense principles to what may be observed in these cases of undue softness of the uterus, it becomes sufficiently evident that these are really cases of imperfect nutrition—starvation—of the uterus. The organ is imperfectly nourished, very frequently in common with other organs of the body; the natural result is that the tissues are soft, spongy, and non-resistant. The cases in which this malnutrition of the body at large gives rise to

local malnutrition of the uterus are by no means rare. The age of puberty is one of great growth and development. Much nutritive material is required for the additional bulk the body attains, and, amongst other things, to provide for the increase in the size of the uterus incidental to that age. The patients who present this softness and atonic condition of the uterus are almost invariably, according to my experience, to be convicted of non-observance of the laws of supply and demand. They are found to have either taken too little nourishing food or to have largely and profusely expended their vital forces at this critical age, or to have erred in both particulars. From fourteen to sixteen or seventeen years of age is the period during which, for the most part, mischief is done in this way, and it is fortunate if errors of this kind do not leave their mark on the individual for the remainder of life.

Malnutrition of the uterus, then, I believe to be a very common cause of undue softness of its tissues. Whether we are to regard this softness as due to feebleness and imperfect development of the muscular elements in the uterus, or whether to regard it as an evidence of deranged nervous action, or as a proof of deficient circulatory power and lessened blood-supply, it is not essential to determine. It seems probable that it may be due to all these conjoined states, and the condition would still be fairly spoken of as malnutrition, to say nothing of its frequent clinical association with malnutrition of the other organs.

Want of tone — atonicity — of the organ would be an appropriate designation for softness in, probably, the majority of the cases. But in some instances we meet with atonicity of the uterus where there is no particular evidence of the existence of malnutrition of the uterus. I have occasionally observed the uterus to vary very much in the same patient in regard to its firmness from time to time. And in point of fact we know that the nulliparous uterus is capable of contraction and relaxation. Unquestionably, for instance, it contracts forcibly in certain cases of dysmenorrhœa when endeavouring to expel its contents. This contraction and relaxation may be regarded as normal within certain limits; when contracted the uterus is hard, when not contracted it will be rather softer. Further, it is matter of observation that the forcible dilatation of the os uteri by tents gives rise to softness of the os to a very remarkable degree.

The relation of softness to "congestion" of the uterus requires an incidental mention here, although the subject of congestion will be more fully considered later on. When softness is *not* associated with increase in bulk there is most frequently a deficient blood-supply; in fact, anæmia rather than congestion. But it is not uncommon to find softness of the tissues together with increase in bulk, that increase being dependent upon undue distension of the vessels with blood and what may properly be designated as "congestion" of the parts so affected. Congestion, however, *per se*, does not always present itself in association with softness; for it is quite certain that in some cases the tissues of the uterus are so forcibly dilated with blood that the organ becomes unduly hard and firm.

In nulliparous women, a large soft congested uterus is generally the result—the accompaniment, at all events—of dilatation of the cavity of the body of the uterus by retained menses or other analogous causes. The soft, *enlarged*, congested uterus is far more common in women who have undergone pregnancy.

The soft uterus is unquestionably, however, much *predisposed* to the occurrence of congestion. The circulation within the walls of the organ is feeble, the blood is itself deficient in nutritive power, and it pursues at all times a sluggish course. But little is needed under such circumstances to induce congestion of the organ. Most frequently the congestion occurs as the result of compression of the vessels at the centre of the uterus, as explained in my last paper (THE LANCET, May 27th, p. 770), and is due to the change of shape in the organ. But the softness is primarily responsible for the congestion in many such cases, inasmuch as it *allows* the uterus to take that abnormal shape. It is the unusual pliability which plays so important a part under such circumstances, and opens the way to effects which are various and wide in their ultimate issues.

Much reflection has induced me to regard undue softness of the uterus as a condition fraught with danger, and one liable to eventuate in chronic troublesome uterine disease. The existence of softness of the uterus as a primary pathological condition, and forerunner of the various effects witnessed in chronic uterine disease affecting young women, has been more and more forced on me by observation and experience, and I have derived the greatest assistance in regard to treatment from an acquaintance with its importance.

Softness of the uterus is not the result of inflammation. It is possible that in some cases there is a certain degree of œdema of the tissues conjoined therewith, but this is the only event in any way analogous to the effects of inflammation, and this only occurs when the condition would be properly described as "congestive."

Softening of the uterine tissues has not yet, in fact, received the attention it deserves. It is possible it may in time to come receive a name which will correctly and adequately represent its proper place and position in uterine pathology. And it is, of course, possible that in the future some other antecedent condition may be clinically recognised or discovered. But at the present moment I invite attention to it as constituting one at least of the primary pathological changes to which the uterine tissues are liable. I would submit, then, that—

1. The healthy uterus possesses a considerable degree of firmness and rigidity.

2. Softness of the uterine tissues destroys or impairs the mechanical resistance the uterus offers to change of shape.

3. This softness of the uterine tissues most frequently arises from malnutrition, and is, in fact, a local weakness, the result of an insufficient food-supply.

4. It is the primary pathological condition in a large proportion of cases of chronic uterine disease affecting young unmarried women.

EXPLANATORY REMARKS ON THE TREATMENT OF STRICTURE OF THE URETHRA AND GLEET.

BY F. A. OTIS, M.D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

AMONG the many valued professional courtesies extended to me during a brief stay in Great Britain last summer, none was more esteemed than that which proffered me the opportunity of fairly presenting to the medical profession in England my somewhat peculiar views in relation to some points in urethral surgery. Through the invitation of Mr. Berkeley Hill, Professor in the University College of London, and by the aid of the clinical material kindly placed at my disposal by him, I was enabled to do this, in a lecture at the University College, under circumstances every way favourable and agreeable to me.

The recent vigorous yet friendly analysis of this lecture by Mr. Hill, together with a summary of fifteen cases of urethral stricture, operated on by him according to my method, and reported in THE LANCET of April 8th, is just received. I desire the privilege of correcting, through the same influential medium, some important misapprehensions of my views and methods of procedure, and also to answer some objections made on points of special interest to all concerned in the progress of urethral surgery.

Mr. Hill has formulated my innovations upon the usually accepted views, as follows:—

"1. The human urethra varies much in its calibre in different persons.

"2. The urethra is much wider than is usually taught.

"3. The meatus urinarius is normally as wide as the rest of the canal.

"4. Gleet is always due to stricture.

"5. In the term stricture Dr. Otis includes those early indurations which have not sufficiently advanced to interfere with the passage of urine, or to produce any symptom beyond a discharge. But he maintains them to be really bands of contractile-tissue fibres, produced by inflammatory action.

"6. Stricture is most frequent in the first inch from the meatus, and is less frequent as the distance from the entry increases.

"7. Complete division of stricture and maintenance of the incised part at its natural width until the incision is thoroughly healed prevents return of the contraction, and, moreover, *causes absorption of the indurated tissue from the affected part.*"

In the first place, let me pay a merited tribute to the ability, fairness, and kindliness with which Mr. Hill has considered questions involving so radical a departure from the time-honoured teachings of authorities.

In regard to the first proposition, Mr. Hill frankly admits that "the urethra varies in calibre in different individuals. Considering," he fitly remarks, "that the penis also varies, this might be well presumed *à priori*." He thus rejects the assumption of a fixed standard, which he states is usually set at 12 of the English scale.

This conclusion is arrived at after the careful measurement of ninety-five urethræ, and fully confirms my claim that no intelligent diagnosis of the number, calibre, or extent of stricture, in any individual, can be made while the assumption of a fixed standard is admitted.

In this connexion Sir Henry Thompson is quoted as saying that "the urethra is not a tube at all except when some body is passing along it," and defines it to be a "closed valvular chink."

I am unable to attach any importance to the objection that the urethra is not a *tube* because it is a closed tube when not distended. It might with more reason be objected that the *chink*, being an *aperture* or a *crevice*, when closed, ceases to exist, and hence, notwithstanding its valvular attachment, would fail to convey any correct idea of the urethra. Mr. Hill, however, in a very masterly paragraph, has presented the practical aspect of the urethra, independently of appellatives, by showing the necessity of ascertaining to what extent a given urethra should be capable of being normally distended. He says: "If the balance between the natural expulsive force of the bladder and the friction along the urethra is disturbed, the bladder is irritated, the kidneys are affected, and the beginning of the long chain of events, which terminate not unfrequently in death, is made."

How, then, is this most important *balance* usually disturbed? Not by that most patient of all asses, *the bladder*, habitually doing more work more quietly and with less consideration than any other organ of the body, but by *the urethra*—sensitive, easily and frequently irritated, inflamed from various causes, and finally strictured to a greater or less degree. This it is that "increases the friction and disturbs the balance." Hence it becomes a matter of first importance to ascertain, at as early a period as is possible, the normal calibre of every urethra in which symptoms of *undue friction* are present, in order to ascertain the *amount* of constriction which has occurred. Thus, the *least* appreciable encroachments become worthy of attention, and hence we have reason for including, under the term *stricture*, "those early indurations which have not sufficiently advanced to interfere (markedly) with the passage of urine, or to produce any symptom beyond a discharge" (point 5th), and these are readily and with precision made out by means of the urethrometer and the bulbous sounds which Mr. Hill has illustrated and described.

The assertion that "gleet is always due to stricture" (point 4th) finds corroboration in the known facts, that *constriction* always *increases friction*; that increased friction causes irritation; and that continued irritation of mucous membrane, anywhere, often produces and always prolongs a mucous or muco-purulent discharge. This then is my defence for considering the slightest encroachments upon the normal urethral calibre worthy of consideration and treatment. I have stated it as my opinion that "gleet is always due to stricture," yet I do not mean to be understood as claiming that division of stricture always cures gleet. Inflammation of the eye, as a rule, always results upon the presence of a foreign body in it, and yet it is quite conceivable that the diseased action, originally set up by the presence of the foreign body, may not be entirely removed by the removal of the first cause; yet no one will deny that it is wise surgery, in every case (when it is possible), to remove the foreign body. Gleet may continue after the removal of its cause; the inflammatory action, long continued, may have spread to the continuous mucous membrane of the urethral lacunæ and sinuses, and persist in spite of the removal of stricture (or of the use of other means) indefinitely; those are exceptional and sad cases, but do not seem to me to invalidate the claim that "*as a rule gleet depends upon stricture*," or that stricture when present should be removed as the first and most rational mode of remedying the evil.

Point 3rd is an anatomical one. "The meatus urinarius is normally as wide as the rest of the canal."

I would not be understood to mean by this that it is usually so, but that this is the highest normal type of meatus. In a paper published in the *New York Medical Journal*, April, 1874, on "Urethrotomy, External and Internal," I remarked of this correspondence that it "may be considered as the normal condition of these parts, and any variations from such uniformity may be considered aberrations from the normal condition. These (aberrations), however, are, as a rule, of no practical importance unless the tissue composing them has been previously invaded by inflammatory action." "As long as the meatus escapes inflammatory action it does not become a source of trouble on account of its diminutive proportions. Let inflammation be set up in this locality, as may occur from extension of an infantile or an adult balanitis, or from gonorrhœa, or from any other cause, and a plastic exudation results, which, becoming organised, disables the urethral muscular structure at this point, and it is no longer able to act efficiently in expelling the last drops of urine; they are retained, a dribbling results, and is the unvarying sign that such an accident has occurred. We may have a meatus from the size of a mere pin-hole to the full size of the urethra behind it, and yet find no difficulty in any case. In a recent public examination of a hundred patients in Charity and Bellevue Hospitals, claimed to be free from inflammatory antecedents, the meatus

In 1 was	13	mm. cir.	In 17 was	25	mm. cir.
3 "	15	"	3 "	25½	"
1 "	16	"	4 "	26	"
3 "	18	"	5 "	27	"
2 "	17	"	3 "	27½	"
3 "	19	"	2 "	28	"
1 "	19½	"	1 "	28½	"
3 "	20	"	5 "	29	"
2 "	20½	"	3 "	30	"
2 "	21	"	5 "	32	"
5 "	22	"	4 "	33	"
1 "	23	"	2 "	33½	"
1 "	23½	"	2 "	34	"
7 "	24	"	1 "	37½	"
1 "	24½	"			

Average size in one hundred cases, 24·72.

In no case was the urethra, in the one hundred cases, below a calibre of 26 millimetres—ranging from this to 39—the average being 32·95. In none was any trouble complained of. None, then, can be strictly claimed to be abnormal as long as the functions of the part are well performed, and hence, in the presence of such great variations, it might be difficult to fix upon the *highest normal type* of the meatus urinarius. We do find, however, that various and grave difficulties and diseases are occasionally associated with a genito-urinary apparatus where the meatus is not of the full size of the urethra behind it, and that such difficulties are often promptly relieved by a surgical procedure which permanently enlarges the meatus to that size. The fact that such difficulties do not occur when the meatus is of the full size of the canal behind it, gives additional weight to the assumption that "the condition of these parts which ensures the most complete functional integrity and is least liable to become the source or seat of disease, and which is also least liable to induce, aggravate, or prolong disease in the contiguous parts, may be safely and appropriately accepted as representing the *highest normal type*. Of the hundred cases above reported, the meatus was found to correspond to the size of the urethra behind it in ten cases, while none exceeded that limit. In his ninety-five cases Mr. Hill found the above-named correspondence in only three cases; his examinations, however, were made in subjects who confessed to previous or present inflammatory urethral trouble. The correspondence in my own hundred cases was more than I had previously

claimed, which was about one in twenty. One hundred cases is probably too few to decide, and further observations are needed to settle this point with exactness.

In regard to the calibre of the spongy portion of the urethra (point 2) Mr. Hill frankly states that his measurements of ninety-five urethræ confirm the truth of the statement that "the urethra is wider than is usually taught." He has, however, misapprehended in inferring that I consider the ante-bulbous urethra of uniform size. My observations completely coincide with Mr. Hill's that at the bulbous part the urethra is the widest (i.e., most distensible). From this I have found a gradual narrowing for from one to two inches, and then a calibre almost uniform to the meatus, except where this is several degrees less in size, when there would be an expansion of from a quarter of an inch to an inch behind it, at the point usually referred to as the fossa navicularis. Measured with the urethrometer, this difference between the bulbous and spongy urethra was

In 35 cases	1 mm.	In 2 cases	6 mm.
21 „	2	2 „	7
18 „	3	1 „	11
6 „	4	13 „	no difference.
2 „	5		

The average difference in the 100 cases was $2\frac{5}{16}$ millimetres, and the calibre of the ante-bulbous portion averaged 32·95 mm.

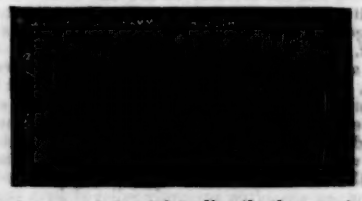
(To be concluded.)

THE EFFECT OF BRIEF EXERTION ON THE RADIAL TRACING.

BY C. HANDFIELD JONES, M.B. CANTAB., F.R.S.,
PHYSICIAN TO ST. MARY'S HOSPITAL.

IN a recent paper in THE LANCET I stated that the effect of exercise on the radial tracing was to diminish pre-existing signs of arterial tension. I have seen no reason to doubt that this is the rule when the exercise has been of some duration, but I have met with one instance where, after exertion of little more than a minute, the tracing presented a well-marked feature of increased tension which was not apparent just before. The tracings taken under this condition present also a remarkable increase in the primary rise, which contrasts very strongly with the opposite effect of more prolonged and severe exercise. A short account of these may not be without interest.

In Fig. 1, *a* is taken while at rest, *b* after about a minute's brisk movement, the sphygmograph remaining *in situ*, and

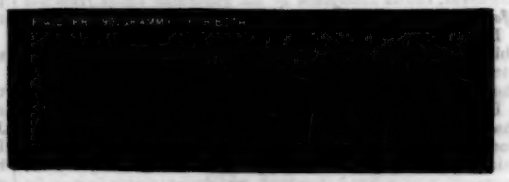


the second tracing being taken directly the exercise ceased. The primary rise in *a* is ·2 inch, in *b* it is ·55 inch. There is no other important change in the tracing; the tension signs are about equal in both.

In Fig. 2, *a*, taken at rest, is perfectly normal; *b*, taken

after brief exertion, shows a well-marked shoulder in the fall to the aortic notch, indicative of delay of the tidal wave. It much resembles some tracings of aortic regurgitation. The primary rise is ·25 inch in *a*, ·55 inch in *b*.

In Fig. 3, *a*, taken at rest, shows more evidence of undue arterial tension being present than the corresponding trace



in Figs. 1 and 2; *b*, taken just after a hard run, shows, besides a much more rapid rate, a much lower rise, a sharper top, and a much steeper fall to the basal line, which is reached before the aortic notch occurs. The height of the rise in *a* is ·3 inch, in *b* ·2 inch. The changes imply lessening of the cardiac force in each beat, and lessening of the arterial tension.

In tracings *b*, Figs. 1 and 2, the heart is evidently stimulated and excited, and answers without any indication of failure to the stimulus. This is probably always the case for a longer or shorter period, except in cases of great and dangerous asthenia, and the length of time the exercise can be continued before lowering of the primary rise ensues—the spring-pressure being of course unchanged—may be taken as a measure of the soundness and endurance of the heart. Increase of tension, on the other hand, does not seem to be constant. I found indications of it only in one out of four instances. Increased *distension* of arteries is very likely to result from increased cardiac action, unless the efflow is very free. This, however, is quite another affair.

The sphygmometer, used in the same way to ascertain the the effect of brief exertion on the heart's action, gives generally a similar result. In seven out of eight individuals the pressure required to arrest the pulse after such exercise was greater than before. This is the reverse of what was observed when the exercise was severest. (*Vide* Proceedings of the Royal Society, 1873.)

Between the above tracings and those of various sthenic and asthenic morbid states there exists often a considerable resemblance, or almost identity. The greater simplicity of the conditions in exercise—not too prolonged—seems to me to make its study of value in endeavouring to interpret the tracing of disease.

Green-street, W.

NOTES ON ASYLUMS FOR THE INSANE IN AMERICA.

BY JOHN CHARLES BUCKNILL, M.D., F.R.S.

(Continued from p. 703.)

THE National Asylum for the Insane, under the superintendence of Dr. Charles Nichols, crowns the heights to the eastward of the Anacosta branch of the Potomac, some mile and a half from the capitol at Washington. It is a fine building, in the castellated style, of red sandstone, with beautiful grounds, which, however, like those of all American institutions, of whatever kind, are in that trim condition to which English eyes are accustomed. Not much labour is thrown away in America on such unremunerative employments as mowing grass-plots and weeding walks. The gardens, however, are excellent and extensive, and there is a very fine farm, and the best dairy of Alderney and Guernsey cows I ever saw.

The asylum was originally intended to provide accommodation only for the insane of the army and navy and of the district of Columbia, but the insane of the preventive service and of the merchant marine have subsequently been admitted. There is proper accommodation for 575 lunatics, but the actual number under treatment was 750; yet the

wards did not appear to me to be much overcrowded, probably owing to parts of the building not originally intended for occupation having been taken into use. The proportion of men to women patients was seven to two. New buildings for 250 female patients are about to be erected on a site about the third of a mile from the present buildings, the estimated cost, with furniture, being 350,000 dollars, or £280 per patient, which does not include ground, or ground work, which in America is called grading.

Dr. Nichols is assisted by three assistant-physicians, and is under the control of a small committee, including the Surgeon-General of the Army and the medical head of the Navy. The wards were light, cheerful, and cleanly, and were well furnished. Those for the women were especially cheerful and prettily decorated. Among the men just a little military discipline had been preserved, so that they formed in double line and stood at attention when called upon to do so. They were certainly very orderly and tranquil, and, as a connoisseur in such matters, I liked the look of them. They were, I should say, cheerful and fairly comfortable, kept in order, but not oppressed. They were well-clad and looked well-fed, and the commissariat department appeared to me to be very liberally and skilfully administered. Throughout the asylum there was no patient in seclusion, but I counted no less than eight in strait-waistcoats, not one of whom appeared to me to be suffering from excitement. They were probably patients from whose freedom of motion danger was apprehended. They were sitting quietly enough on the ordinary settles, though I observed that in two or three instances the strait-waistcoat was attached to the back of the bench. I must confess that I did not ask for any explanation as to the employment of this restraint, nor shall I make any remarks upon it in this place beyond the observation that it must have been imposed because it was thought the best mode of treatment. The whole condition of the asylum would at once refute the idea that it was in any degree attributable either to negligence or disregard of suffering. Everything in the asylum bespoke minute and skilful care in the treatment of the patients; and here were eight out of 750 patients under mechanical restraint at the same time. No one in the States enjoys a higher reputation than Dr. Nichols both as a skilful psychologist and as a humane and thoughtful physician, and therefore I trust he will forgive me if I say that he seems to be the best person I know to ask for explanations why his practice in the use of restraint differs so much from what we consider right in this country.

Separate from the main building is a smaller one, occupied by insane patients of the coloured race. There was some amount of boisterous and noisy talk, which was mostly merriment, in these wards, distinguishing them, as might be expected, from those occupied by the sedate Americans. The coloured man in the States is very rarely a negro: he is a man with negro blood in him, that is all. I asked in vain of my friends at Washington, where the coloured element in the population is very large, to point out to me a full-blooded negro. When I pointed out some individual, either in the asylum or the streets, who appeared to me very black and prognathous, I was always told that he was not full-blooded. To see the real negro one must go quite south, and even there he is by no means common. The dark element, however, seems to be readily recognised where, to one ignorant of the marks of race, there is no sign of it. I spent a very pleasant forenoon in examining the school for coloured girls, 700 of them, many of whom were quite fair, and I was astonished when the head mistress assured me that, with one exception—viz., the French teacher,—every one in the building, both pupils and teachers, including herself, were coloured people.

After Washington I visited the Asylum for Criminal Lunatics for the State of New York at Auburn—a very well-conducted institution, having only one defect, but that a very great one. It is a prison rather than an asylum, with high walls and small court-yards, adjacent to the great Auburn Penitentiary. The governors are increasing its size by the addition of some excellent new wards; but why they did not remove it from the town into the country, where excellent sites and abundance of land are so easily procurable, it would be difficult to surmise. The inmates of an asylum of this kind are, with very few exceptions, incarcerated for life, and many of them have enough intelligence to enable them to enjoy life if the conditions of life in which they are placed are not made too painful by monotony or repression; and if they are really innocent of crime on account of insanity, it is quite due to them that their lifelong imprisonment should be made as little punitive as it is possible to make it, and to do so an institution in the country, with garden, free air, and space, is absolutely indispensable.

The Lunatic Asylum for the State of New York at Utica, which I visited after leaving Auburn, and where I spent some instructive and most agreeable days, is better known to the outside world than any other similar institution in the country. This, no doubt, is due, to some extent, to its being the asylum of the Empire State, established in a part of the country long ago settled, and, in comparison to many other parts of the States, of almost ancient civilisation. But to a far greater degree its reputation is due to the genius and enterprise of Dr. John Gray, its well-known superintendent, who has for many years made it a brilliant school of psychology and of mental pathology. Dr. Gray and his assistant-physicians edit and publish the *American Journal of Insanity*—an enterprise which has been of the highest value in extending the knowledge of our science. One of his assistants, Dr. Theodore Deecke, devotes his time exclusively to pathological investigations; and is engaged at the present time in producing photographs of cerebral and spinal sections of wonderful size and accuracy. The positive and relative nature of drugs in the treatment of insanity is another subject which is systematically investigated at Utica; and, altogether, the utilisation of the material for scientific inquiry which the institution affords presents a remarkable similarity to the great school of mental science which has been founded in Yorkshire by Dr. Crichton Browne.

The wards were large, cheerful, and well furnished and decorated. The asylum has been built piecemeal; but the original building, with its imposing Ionic portico of granite, is a lasting testimony to the liberal ideas of its earliest constructors. A very pleasant feature of the newer wards are the glass rooms in which they terminate. They are the exaggeration of bay-windows, and they not only add greatly to the light and cheerfulness of the whole ward, but form most comfortable and agreeable lounging or working rooms. I assisted by my presence at some capital amateur theatricals, in which the actors were patients and attendants, and the audience of lunatics were neither dull nor disorderly. The recreation-room, however, is not worthy of the asylum, and the governors would do well to provide a better one. However, the accommodations all round are excellent; and if it were possible for us to send our best sample of a large asylum, which has done good work for many years, to the Centenary Exhibition, I doubt whether we could very much crow over the one which the Americans might bring to compete with us from Utica.

The asylum contains 850 patients, more or less (for I forget the exact number), and I was pleased to find that not one patient was either in restraint or in seclusion. I observed one young man in a state of great excitement, suffering, indeed, under the restlessness of the most acute mania. He was under the sole charge of two attendants, who were carefully walking about with him, holding him on each side, and I could not refrain from asking Dr. Gray why he did not order him into mechanical restraint as it appeared to me just the case in which it would be justifiable if in any. Dr. Gray replied that he did not use restraint, but I found him indisposed to talk on the subject, as he admitted that his practice was not in conformity with the opinions of his professional brethren, and he evidently preferred to treat his own patients as he thought best without opening a blazing question. As no one was in restraint in this asylum, neither was there anyone in seclusion, and Dr. Gray informed me that for the last eight or ten years the institution had not possessed a shower-bath.

On a visit to another institution, which I shall not indicate, I was introduced to a young man who was described to me as the supreme authority, his colleagues engaged in business leaving almost all the power in his hands. He was a *politician* in the American sense of the word, which is not complimentary, and had begun his official career as night watch in a hospital, and the management of the institution over which he held sway presented a remarkable contrast to that of Utica. We have had, and indeed still have, experience of the same kind in England, but in America there is no central authority like that of the Secretary of

State, advised by the Commissioners of Lunacy, to overrule the ignorance or parsimony which may prevail in certain localities.

(To be continued.)

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

RADCLIFFE INFIRMARY, OXFORD.

TWO CASES OF CEREBRO-SPINAL MENINGITIS OCCURRING IN PREVIOUSLY HEALTHY SUBJECTS; A THIRD CASE, DOUBTFUL.

(Under the care of Drs. GRAY and TUCKWELL.)

THE two militiamen in the following cases had been billeted in the town of Oxford for several weeks before admission, together with other recruits. The premises where the men were lodged were inspected, and no bad drains, impure water, or overcrowding were detected. All the recruits were supplied with the same bread, which fact is against Dr. Richardson's theory that poisoned grain is the cause of the disease. The militia had not been exposed to any unusual fatigue or exposure, and no cases have been known to occur in previous years. The only case of illness in the same house where the first case lodged was a man with pneumonia, who came into the infirmary a day or two later. The pneumonia ran a mild course, with a crisis on the sixth day. There had been no case of illness in the house from which the second case came.

The post-mortem appearances in the two cases were precisely similar in the seat of purulent exudation and in condition of internal organs, except that in the case of W. D—— the base of brain and surface of hemispheres were more thickly coated with exudation, and the effusion into the ventricles was greater than in the case of J. W——. In the case of the latter the spinal cord was more involved and the kidneys were decidedly diseased. No trace of tubercle or syphilis in any organ, and in both cases it was particularly noticed that the spleen was normal.

CASE 1. (Under the care of Dr. Gray.)—J. W——, aged nineteen, private in Militia, previously in good health, was taken ill on April 17th with rigor, headache, and high fever. On the 19th April he was admitted, complaining of intense headache. There had been no vomiting previous to his admission. Great photophobia; pupils contracted and equal; slight paralysis of right facial muscles; movements of eyes perfect. Tongue dry and brown; sordes about mouth; bowels not opened for five days. Heart and lungs normal, and no eruption. Trace of albumen in water. Patient is restless and does not like to be disturbed; commenced to vomit in the evening, and continued to do so, off and on, through the night. Pulse 116; respiration 24; temperature 104°.

April 20th.—Much drowsiness and stupor; facial paralysis more marked; pupils equal. Is restless and moaning; respiration sighing. Ordered five grains of calomel, half a drop of croton oil; head shaved, ice applied; mercurial inunction every four hours. Passes urine under him. Morning: Pulse 120, respiration 32, temperature 102·6°. Evening: Pulse 120; respiration 40; temperature 104°. Powder repeated in evening; bowels unmoved.

21st.—Cannot be roused to consciousness; head retracted; facial paralysis very marked; right conjunctiva insensible to touch; deviation of eyes upwards and to right; frequent clonic convulsion of right arm. By the evening, complete right hemiplegia. Powder of calomel and croton oil were repeated; bowels unmoved. Morning temperature 102°; evening temperature 102·2°.

22nd.—Two convulsions last night, the first general, the second unilateral (right); head retracted, hurried breathing, profound coma, ending in death about noon. Morning temperature 103·6°.

CASE 2. (Under the care of Dr. Tuckwell.)—W. D——, aged twenty, militiaman, in previous good health, and of sober, steady character, was seized on April 25th with rigor, headache, and vomiting. He was admitted on April 26th in a state of drowsiness and stupor, unable to stand or sit upright without assistance; very irritable, will not answer questions or protrude tongue, resents any interference, moans, and pulls bedclothes over him. Very restless, lies quiet for a few minutes together, suddenly cries out, and turns about in bed; great photophobia, angle of mouth drawn to left slightly, and there is frequent twitching of left side of face and left limbs. Tache cérébrale not marked, but there is erythematous blush over forehead; hyperæsthesia of surface of body generally. Right arm bent and rigid, thumb bent into palm of hand; distinct loss of power of right hand compared to left. No especial tenderness or tension of cervical muscles. Tongue coated but moist, abdomen hard and retracted, bladder distended. Urine drawn off by catheter, specific gravity 1032, acid, small quantity of albumen. Morning: Temperature 100°; pulse 84; respiration 30. Evening: Temperature 103°; pulse 84; respiration 36. Two grains of calomel every second hour.

27th.—Same restless, drowsy condition; head and neck retracted, more markedly so on supporting patient in bed; less power in right arm; slight double convergent strabismus; twitching of left face and limbs. Three loose stools passed, not unconsciously; urine drawn off, small in quantity, albumen large. Temperature 103°; respiration 32; pulse 88.

28th.—Is more conscious; complains of pain in head and back; knew his father. Less jactitation of left limbs and less general restlessness. Strabismus more marked, especially in left eye; head more retracted, right arm less rigid, hand cold and blue. Eruption of herpes on right cheek and also on body. Urine passed without catheter. One loose stool. Morning: Temperature 101·6°; pulse 96; respiration 24. Evening: Temperature 103·5°; pulse 100; respiration 32.

29th.—Has relapsed into unconsciousness; restlessness extreme, retraction of head greater, deglutition difficult, mucous râles on both sides of chest and cough; no dulness on percussion. Morning: Temperature 103·2°; pulse 120; respiration 30. Evening: Temperature 100·2°; pulse 116. Passes excreta under him; some urine obtained, albumen in small quantity; no action of bowels. Calomel discontinued, gums slightly touched.

30th.—Continues in same condition; great oppression of breathing; still restless, but much weaker; tongue dry and brown. Morning: Temperature 100·6°; respiration 32; pulse 100. Evening: Temperature 102°, respiration 60; pulse 138. No action of bowels; urine albuminous.

May 1st.—Same. Morning: Temperature 102·6°; respiration 80—90; pulse 160. Evening: Temperature 100·2°. Urine albuminous; specific gravity 1028.

2nd.—Same. Morning: Temperature 99°; respiration 60; pulse 160. Evening: Temperature 102·6°. Urine albuminous.

3rd.—Conjunctiva of right eye insensitive; reflex action on touching left; strabismus very marked; pupils widely dilated and fixed; right arm flaccid, and quite paralysed; tracheal and bronchial râles. Morning: Temperature 101·6°; respiration 60; pulse 160. Evening: Temperature 102·4°. Two loose involuntary motions; urine, specific gravity 1026, albumen large.

4th.—Died at 3.15 A.M. After death, temperature rose to 105°.

There was no convulsion, tache cérébrale was not marked, and no paralysis of legs till the paralysis became general. Temperature in right axilla was slightly higher than in left during last few days.

Post-mortem examination, thirty hours after death.—Rigor mortis well marked. Deep purple staining of all the depending parts of the body.—Brain: Firm adhesions were present, at one part between the dura and pia mater, on the upper surface of each cerebral hemisphere, for a space about as large as a shilling, close to, and on either side of, the longitudinal sinus. Pia mater highly vascular throughout. Patches of a greenish-yellow purulent exudation lay upon the superior frontal convolution of either hemisphere, and on the posterior part of the middle frontal, being especially

marked around the veins which converged towards the Sylvian fissure. This exudation, in comparatively smaller quantity, was followed along the Sylvian fissure to the base of the brain, where it became much more abundant. Here a thick green layer, of firm consistence, extended forwards to the optic commissure, backwards to the middle of the pons, and for a short space over the cerebellar hemispheres. Another large patch lay on the under surface of the cerebellum, reaching up to, but not into, the fourth ventricle. The posterior half of the pons, and the medulla on both its surfaces, were very vascular superficially, but quite free from exudation. The white substance of the brain was very vascular. There was no excess of fluid, and no pus in the lateral ventricles. The fornix and septum lucidum were entire.—Spinal cord: On slitting up the sheath posteriorly, a layer of greenish purulent matter was seen extending from the upper cervical region to the cauda equina, varying in thickness in different parts of its course. Thus, in the upper cervical region it was not so thick as to hide the deeply-congested pia mater which peeped through beneath it, while in the upper dorsal region it rapidly increased to one-eighth of an inch in thickness, and in the lower dorsal region to as much as one-sixth of an inch. It lay beneath the visceral arachnoid, between this and the pia mater, and was firm and concrete in consistence. At that part of the cord where the nerves which form the brachial plexus have their origin, it was noticed that the layer of pus was thicker and more abundant on the right side than on the left. Below this point, the roots of all the spinal nerves were bathed in pus. The anterior surface of the cord presented a very different aspect to the posterior. The pia mater was here highly vascular throughout; in the cervical region it was slightly turbid, more so in the dorsal, while in the lower dorsal and lumbar regions it was coated with a very thin layer of the same purulent matter which was so abundantly present on the posterior surface. The cord itself was not softened in substance.—The lungs were both congested, and very œdematous. The heart was healthy. The liver weighed fifty ounces, and was healthy. The spleen weighed four ounces, and was healthy. The kidneys weighed, right five ounces, left five ounces and a half. In both the capsule was adherent in places, the cortex was thin, and the stellate veins were very marked. In the right kidney were two small cysts. The ileum in its middle third was deeply congested, and contained a small quantity of altered blood, but there was no enlargement of the solitary follicles or of Peyer's patches. The mesenteric glands were not enlarged. No trace of tubercle could be detected in any organ.

CASE 3. (Under the care of Dr. Gray.)—John Q——, aged twenty, tailor's apprentice, living in Oxford, was admitted Dec. 21st, 1875. After feeling giddy for a few days, but otherwise in his usual good health, he began, on Dec. 18th, to suffer from severe headache, chiefly frontal, which continued up to the time of admission, and prevented him from sleeping. On admission, the tongue was much furred; no action of bowels since headache began; no eruptions; no history of injury to head; no discharge from either ear. Urine normal; chest clear; pulse 60. Evening temperature 102°.

Dec. 23rd (sixth day).—Still intense headache, with foul tongue, in spite of free purging yesterday with calomel and jalap; also to-day he has double vision, much intolerance of light, and well-marked cerebral maculæ. Head shaved; blister to vertex. To have five grains of iodide of potassium with one drachm of the solution of perchloride of mercury three times a day.

25th (eighth day).—The same symptoms, with the addition that he is getting very drowsy, dislikes to be touched or in any way disturbed, lies with his head drawn backwards, and has inward squint of left eye. Urine passed under him once to-day. The dose of iodide of potassium increased to eight grains.

28th (eleventh day).—Since last note frequent complaint of *pain in back of neck and down spine*. Increasing stupor and retraction of head. Sometimes inward squint of left eye, sometimes involuntary rapid twitching of both eyes towards the right. *Arms very tremulous*. Slight salivation.

29th.—Mouth drawn to right side. Tonic, alternating with clonic, *convulsions of arms and legs* throughout the day.

30th (thirteenth day).—Died. Since admission temperature has steadily fallen from 102° to 97°; the pulse has steadily risen from 60 to 110. Liquid nourishment was taken without trouble throughout; and vomiting occurred only once.

Autopsy twenty-eight hours after death.—Head: No mischief in any portion of the skull-bones or of the dura mater. On upper surface of brain all the vessels very gorged; convolutions flattened from pressure. Arachnoid smooth and moist, but opaque here and there where it bridged over spaces between convolutions. Under surface showed no sign of disease; no lymph anywhere. A doubtful appearance of scattered, very minute, miliary tubercles (?) in pia mater covering pons and medulla oblongata. (Some pieces of this were afterwards examined under a microscope and showed a very great amount of cell-proliferation in the track of the bloodvessels, the cells here and there aggregated into dense clusters.) The ventricles much distended with clear fluid; septum lucidum softened. The rest of the brain-substance quite healthy. Spinal cord not examined.—Chest: No effusion in pericardium; substance and valves of heart healthy. On pericardial surface of right auricle some 15 or 20 closely clustered, slightly raised spots, like very small flattened specks of white wax; with moderate force they could be scraped clean off. A smaller cluster of the same spots on pericardium just where it is reflected from the ascending aorta. Both lungs quite free from tubercle or other disease; no old scars. All the abdominal organs, including the whole length of the intestines, carefully examined; no trace of tubercle or any other disease.

Remarks.—Looking to the very scanty and doubtful evidence of any tubercle in this case, and the extreme rarity of tubercular mischief in brain without coexisting tubercle in some other organ or part of the body, was not this probably a case of idiopathic cerebral (and probably spinal) meningitis? The records of autopsies of this disease quote many cases in which nothing more than great hyperæmia of membranes of brain and cord could be found after symptoms just such as this man had during life.

HITCHIN INFIRMARY.

TUBERCULOSIS; EFFUSION INTO THIRD AND FOURTH VENTRICLES; CEREBRO-SPINAL MENINGITIS.

(Under the care of Mr. C. J. GRELLET.)

FOR the following notes we are indebted to Mr. E. A. Praeger.

J. M——, aged thirteen, admitted March 18th. Her father has tertiary syphilis. Her mother stated that four months ago, while at school, she fell from a form on to her back. She then lost the use of her upper extremities for several weeks, but recovered somewhat, till a fortnight ago she complained of a constant pain in the head and back, in the region of the lower cervical and upper dorsal vertebræ. Constantly vomited her food.

On admission she presented a dark complexion, the skin being copper-coloured, dry, and harsh. Voice small and husky, somewhat resembling the voice of chronic laryngitis. Very badly nourished; very wan and weak. Respiration hardly perceptible, the thorax being scarcely elevated when she draws a deep breath. Pectoriloquy all over region of left lung and apex of right lung. Base of right lung dull on percussion, and respiratory murmur somewhat harsh. Slight cough; very little expectoration. Respiration fourteen in the minute. Pulsation between the tendons of the sterno-cleido-mastoid muscles. Heart-sounds feeble; no murmurs. Pulse 48. Appetite bad. No pain over kidneys. Secretion of urine normal. Urine acid, containing albumen to extent of one-sixth, slightly saccharine; sp. gr. 1030. Ordered a diet consisting of beef-tea and milk, as she could not take solids. To take a mixture containing ten drops of dilute phosphoric acid and ten grains of hypophosphite of soda three times a day, and a dessertspoonful of phosphorised cod-liver oil every night. Retained her food.

March 19th.—Slept well. Pulse 48; respiration 14; temperature below normal. Retained her food.

20th.—Vomited all her food yesterday. Pulse 48; respiration 16.

21st.—Vomiting continues after meals. Very drowsy,

waking up to vomit, and then relapsing into a semi-comatose state. Face flushed; head cool.—6 P.M.: Has been very restless all the afternoon. Very delirious. Vomiting very troublesome. Given an effervescing aperient draught, which was vomited immediately. Pulse 80; temperature 102·2°; respiration 30. An enema of warm water was administered. About eight o'clock she had some ammonia, brandy, and soda-water, which stopped the vomiting. To have linseed and mustard poultices all round chest and back, as she seems to have difficulty in breathing. Ice-bag to head, which is very heated.

22nd.—Passed a fair night; not quite so drowsy. Cannot take her food. Is very quiet, and does not speak unless spoken to, when she only answers in monosyllables. Pulse 72; temperature 101°. Another enema administered.—10 P.M.: Pupils dilated evenly; light has no effect on them. Bowels moved after five grains of jalapine. Still very drowsy. Has to be fed with a spoon. Pulse 140; temperature 103°. Urine neutral; albuminous to extent of one-twelfth.

23rd.—Pupils still dilated and insensible to light. On being asked to put out her tongue she evidently understood, but was unable to comply with the request. Can hardly swallow, food remaining in her mouth a long time. Want of co-ordination in muscles of upper extremity. Cannot move her legs, and does not appear to have any sensation in them. No control over sphincters. Appears to have lost all idea of articulation. On percussing in the region of the lower cervical and upper dorsal vertebræ, she appeared to experience great pain, as she cried out. Redness all down the spine. Tissues over bodies of the vertebræ, and over the upper dorsal especially, are very puffy. Respiration feeble; pulse 176; temperature 101°. Urine alkaline, and loaded with phosphates. Blisters to be applied behind each ear and on nape of neck. Mustard-plaster down the whole length of vertebral column. Nutrient enemata. To take five grains of iodide of potassium in camphor-water every four hours.—10 P.M.: Continues in much the same state. Reflex action in both legs. Pulse 174; temperature 101°.

24th.—Passed a fair night. Keeps her forearms flexed and across her chest. On attempting to extend them forcibly, they fly back as if moved by a very strong spring. No control over sphincters. Fed entirely by nutrient enemata, as she has lost the power of deglutition. When spoken to she understands what is said, but has not the least power of reply. Pulse 140; temperature 100·2°. Urine alkaline, loaded with phosphates.—10 P.M.: Pulse 140; temperature 100°.

25th.—Appears more conscious this morning. Still unable to speak. Cannot move her arms. Is totally helpless. Sphincters still relaxed. Electricity was applied over the phrenic nerve, the corpora striata, and cervical vertebræ by means of Stöhrer's continuous-current battery. This roused her slightly. Pulse 120; temperature 99·3°. Urine alkaline, containing phosphates.—10 P.M.: Spoke three words in inquiry for her sister this afternoon. Breathing stertorous; alæ nasi working. Respiration 25; pulse 140; temperature 102°. Five grains of carbonate of ammonia to be added to each dose of her mixture.

26th.—All the muscles are very rigid this morning. Bladder distended. Catheter passed. Urine acid; slightly opaque after boiling. Motions firm and clay-coloured. Electricity applied again, but with less effect than yesterday. Pulse 140; temperature 100°.—10 P.M.: After application of electricity this afternoon, she revived a little for about an hour, but has again relapsed into the drowsy condition. Respiration 46; pulse 180; temperature 102°.

27th.—Has been gradually sinking all night. Ptosis of left eyelid. Injections have been continued at frequent intervals since the 23rd. Died at 10.30 A.M.

Autopsy, five hours after death.—No rigor mortis.—Lungs: Both lungs had a gritty feel, and contained tubercular deposits. Base of right lung had numerous adhesions, some being so strong as not to be broken down by the finger. Left lung collapsed, amounting almost to pneumothorax.—Heart very much congested. Spleen and kidneys healthy. Intestines very anæmic.—Spinal cord: Dura mater very much inflamed; vessels very much congested. On making a section in the region of the lower cervical and upper dorsal vertebræ the medulla spinalis was found to be considerably softened, being about the consistence of cream.—Brain: The longitudinal sinus was full of coagulated blood. The middle meningeal arteries on either side were of greater calibre than usual. On palpation the whole of the encephalon fluctuated like a huge abscess. On slitting the tentorium cerebelli an ounce and a half of serous fluid escaped. On removing the brain the two hemispheres fell apart, exposing the lateral ventricles. The third and fourth ventricles filled with about an ounce of serous fluid. The iter a tertio ad quartum ventriculum was widely dilated, so that it would admit an ordinary pencil. The white matter was very much softened, being of the consistence of cream.

This case was admitted as a case of tuberculosis, and accordingly treated with hypophosphite of soda until the drowsiness was noticed. The effusion into the ventricles was then diagnosed, the redness and tenderness over the spine leading to the diagnosis of cerebro-spinal meningitis of the tubercular form, it being distinguished from the traumatic variety chiefly by the variations in pulse and respiration. Treatment by iodide of potassium was adopted as the only method offering a chance to the patient. The good effects of the constant current in rousing her were most marked.

THE GENERAL COUNCIL OF MEDICAL EDUCATION & REGISTRATION.

Session 1876.

FRIDAY, MAY 26TH.

THE Council met at 2 o'clock, Dr. Acland, President, in the chair.

THE CONJOINT SCHEME.

Dr. WOOD, pursuant to notice, asked the President, "In what state the negotiations of the English bodies as regards the Conjoint Scheme are at the present time?"

Mr. TURNER also asked the President if he could inform the Council what resolutions the several licensing bodies that had been negotiating for the formation of a Conjoint Board for England had arrived at.

The PRESIDENT stated, in reply, that in regard to the state of the negotiations of the English bodies in reference to a Conjoint Scheme, he could only inform the Council that they were in an incomplete state. [Sir D. CORRIGAN.—The same as last year.] As to Mr. Turner's question, he had to state that on March 30th last, at a conference of all the medical authorities of England held at the Royal College of Surgeons the following resolution was passed, "That the conference of representatives appointed by all the medical authorities in England adopt the scheme for an examining board for England as this day amended, and submit the same to the several medical authorities for their consideration." That scheme so amended was forwarded to all the licensing bodies by Sir James Paget, the chairman of the conference. The University of Oxford replied assenting to the scheme. The University of Cambridge replied to the effect that the Syndicate appointed to consider the scheme were unable to recommend the University to approve the alterations proposed to be made as to the appointment of examiners. The University of London had not yet replied. The University of Durham had given its assent. The Royal College of Physicians of London approved the amended scheme, as did also the Society of Apothecaries. The Royal College of Surgeons approved if all the other bodies agreed (a laugh). It was proper to add that suggestions had been made by the University of Oxford, by the Royal College of Physicians, and the Royal College of Surgeons, which, however, were not expected to raise any serious difficulties when the representatives met again if the scheme should be generally agreed to.

Mr. TURNER asked that the resolutions of the several bodies might be entered on the Minutes.

The PRESIDENT said he would endeavour to obtain them as soon as possible for that purpose.

Mr. QUAIN asked the President if he could give information with regard to a conjoint scheme in Scotland and in Ireland.

The PRESIDENT said he was not aware that any communication had been received by the Council on the subject of a conjoint scheme either from Scotland or from Ireland since last year. He had taken pains to ascertain the general course of business in that matter with reference to Scotland and Ireland, and he believed he was correct in saying that no fresh communication had been received since the Council met last year. By a reference to the Minutes of the Council for several years past members could obtain all the information he himself possessed.

Dr. A. SMITH asked the President if it was clearly understood that a conjoint scheme could come into operation without being submitted to the Council.

The PRESIDENT asked Dr. Smith to give notice of his motion. The President said that the next subject on the programme was a notice of motion by Sir William Gull with regard to the conjoint scheme, but before it was entered into the Chairman of the Business Committee desired to make some communication to the Council.

VIVISECTION.

Dr. WOOD said he had been informed by the Chairman of the Vivisection Committee and the other members that their report was not complete, and it would therefore be very important for the Council to adjourn, say at three o'clock, in order to enable them to conclude their labours. The Bill was now being pressed forward in the House of Lords, and it was therefore of great consequence that the opinion of the Council should be forwarded to the Government at the earliest possible moment. If the adjournment took place, the committee would be able to present their report to-morrow, and it could then be immediately discussed.

Mr. TURNER asked the President if he had received any communication from the Government on the subject.

The PRESIDENT said that at the request of the Chairman of the Vivisection Committee he had waited on the Government, and ascertained that the Bill would probably be proceeded with in the House of Lords on Monday, so that it was of great importance that whatever resolution the Council adopted on the subject should be communicated before to-morrow (Saturday) evening. He had undertaken to forward such resolution by that time, and he understood that any expression of opinion on the part of the Council would be most seriously considered by those who had charge of the Bill.

Mr. LISTER said that the Council must feel deeply indebted to the President for the action he had taken in the matter, and inquired whether, in the event of the discussion on the subject not being concluded on Saturday, the Council could meet at an earlier hour on Monday for the purpose of bringing the debate to a close in time for the result to be communicated to the Government before the introduction of the Bill in the House of Lords.

The PRESIDENT said it was entirely within the province of the Council to suspend its bye-laws if necessary for the purpose, but probably it would be better to meet at an earlier hour on Saturday, so as to give more time for the discussion of the subject.

Dr. WOOD said if the matter was adjourned to Monday it would be too late to answer any good purpose, and he hoped the Council would meet at twelve on Saturday, and sit till four.

The certificates of conviction of certain practitioners before courts of law were read, but the consideration of the subject was deferred in order to afford an opportunity of consulting the legal adviser of the Council.

A motion of which notice was given by Dr. Haldane on the subject of the general education of medical candidates was deferred.

The following letter from the Board of Trade was laid before the Council:—

"SIR,—I am directed by the Board of Trade to acquaint you, for the information of the Medical Council, that they have received a report from the Superintendent of Mercantile Marine at Poplar, in which he suggests that it would be a great advantage if in cases of registry of medical practitioners the fact that they had been registered were endorsed on their diplomas; and I am to state that the Board will be glad to receive the observations of the Council on the subject.—I am, Sir, your obedient servant.

(Signed) "THOMAS GRAY.

"The Secretary, Medical Council."

Sir D. CORRIGAN said it was obvious that the request could not be complied with. Many young men did not get themselves registered until several months after they had obtained their diploma, and it would be giving licensing bodies a great deal of trouble to require them to comply with the request made by the Board of Trade. Every object would be accomplished by the production of the certificate, together with the diploma.

Mr. MACNAMARA said he believed that every student, when coming to be registered, had to produce his diploma. (No, no.) At any rate, students were not registered in Ireland until their diplomas were produced, and there would be no difficulty in the Branch Registrar putting an endorsement or stamp on the diploma indicating that it had been registered.

Dr. WOOD called attention to section 15 of the Medical Act, declaring that the licensing bodies might from time to time transmit to the registrar a list of persons possessing their qualifications. It appeared, he said, that that was done by many bodies, and in those cases there was no necessity for the applicants to bring their diplomas when they come for registration, so that there might be a difficulty in complying with the request of the Board of Trade.

Mr. QUAIN said that the Register ought to be of itself sufficient.

Sir WM. GULL suggested that the matter should be referred to the Executive Committee.

Dr. QUAIN said that the matter was discussed at the last meeting of the Executive Committee, and the general feeling was that the Register and the certificate should be sufficient evidence of a person being a qualified practitioner.

The PRESIDENT said that some weeks ago a question was put to the President of the Board of Trade as to the number of surgeons in the mercantile marine who were unqualified and unregistered practitioners, and the present letter to the Council had probably reference to the question. The correspondence with the registrar on the subject would be brought before the committee on a future occasion; it might, therefore, be better to postpone the present letter in order that it might be taken into consideration at the same time.

On the motion of Dr. WOOD, seconded by Mr. TURNER, the consideration was deferred to Wednesday.

The Council then adjourned till half-past five.

On the reassembling of the Council, the following letter was read and ordered to be inserted in the Minutes:—

"22, Brook-street, May, 1876.

"SIR,—We, the undersigned Lecturers on Materia Medica and Therapeutics in the Medical Schools of London, desire to tender our best thanks to the General Medical Council for the consideration bestowed by them upon our memorial of June, 1875, and respectfully to ask what reply, if any, has been received from the licensing bodies to the recommendation based upon our suggestions.

"We beg leave to express our general concurrence with Prof. Harvey in his letter recently addressed to you, and are of opinion that a further recommendation from your Council to the London medical schools would materially aid us in carrying out the objects we have in view—viz., (1) The postponement of the course of the curriculum; and (2) the amplification and more practical development of the teaching of pharmacy.

(Signed),

"FRDK. J. FARRE, St. Bartholomew's Hospital.
SIDNEY RINGER, University College Hospital.
E. BUCHANAN BAXTER, King's College Hospital.
JOHN C. THOROWGOOD, Middlesex Hospital.
CHARLES D. F. PHILLIPS, Westminster Hospital.
R. DOUGLAS POWELL, Charing-cross Hospital.
J. F. PAYNE, St. Thomas's Hospital.
W. MOXON, Guy's Hospital.
ROBERT FARQUHARSON, Hon. Sec., St. Mary's Hosp.

"To the President of the General Medical Council."

A letter was then read from Dr. Stewart Lockie on the subject of English lunacy certificates in Scotland, and re-

questing that the matter might be brought before the Council with a view for such a step to be taken as might be deemed desirable.

Dr. HALDANE said that the matter had been brought before the Medical Council as far back as 1868. Certificates of lunacy granted in England were not available in Scotland or Ireland, and *vice versâ*, and the result was a very great inconvenience. On the arrival of a patient from one country to the other a fresh certificate had to be taken out. The Committee of the Council had reported upon the subject, and the President, Sir George Burrows, addressed a letter to the Home Secretary urging the necessity of legislation to remedy the grievance, but no action had been taken in the matter from that time to the present. The grievance subsisted, and it was for the Council to consider whether any further steps should be taken. He would move that a committee be appointed to consider the subject, and report thereon to the Council.

Dr. WOOD said that the object of the Medical Act was to equalise practice in England, Scotland, and Ireland, and it was contrary to the spirit of the Act that a certified patient should be taken from Kelso to Carlisle or *vice versâ*, and be refused admission into an asylum without a fresh certificate. Notwithstanding the previous remonstrance was not attended to, he thought another committee should be appointed for the purpose of urging the matter upon the Government, for there was nothing like importunity to obtain the redress of a grievance.

Dr. STORRAR said that the present state of things was not only a grievance but an absurdity, and it was not creditable to the legal administration of the country that it should be allowed to exist. The whole question, however, had been thoroughly gone into by the previous committee, with the assistance of Mr. OUVRY, and he did not see what advantage would be gained by the appointment of another committee. It might, however, be desirable to request the President to wait upon the Home Secretary in order to bring the matter under his consideration.

Dr. HALDANE moved, "That as the limitation of the validity of lunacy certificates to the division of the kingdom in which they are first given is still a pressing grievance, the President be requested to lay before the Home Secretary all the previous acts of this Council on the matter."

The motion was seconded by Sir W. GULL, and agreed to.

The Council then adjourned.

SATURDAY, MAY 27TH.

The Council met to-day at twelve o'clock, an hour earlier than usual on Saturdays, in order to afford more time for the discussion of the Bill for the regulation of Vivisection. The President, Dr. ACLAND, occupied the chair.

Dr. STORRAR again called the attention of the Council to the necessity of lessening the amount of printing as much as possible. He was really becoming alarmed at the position the treasurers would be in at the end of the year when they discovered the sum which had been expended in printing.

REPORT OF THE VIVISECTION COMMITTEE.

Mr. LISTER moved, "That the Report of the Committee on Lord Carnarvon's Bill be received and entered on the Minutes."

Sir W. GULL seconded the motion, which was agreed to.

Mr. LISTER gave a brief sketch of the objects and clauses of the Bill, and then read the following report:—

1. The Committee having considered the Earl of Carnarvon's Bill, intituled "An Act to Prevent Cruel Experiments on Animals," recommend to the Council to address her Majesty's Government to the following effect:—

2. This Council, being charged by law with the duty of superintending the course of medical studies in this country, cannot be indifferent to any legislation affecting physiological teaching and research.

3. The General Medical Council, while deeply impressed with the importance of avoiding the infliction of needless pain in the performance of experiments on living animals, regard such experimentation as indispensable to the advancement of physiological and medical knowledge.

4. The Council are not aware that in regard to these experiments such abuses have existed in the British islands as to justify exceptional legislation restrictive of physiological study and research; but they would nevertheless be glad to assist the Government in framing a measure which may give all reasonable securities against any possible abuse.

5. The General Medical Council would respectfully suggest to her Majesty's Government that the following amendments should be made in the Bill:—

(*a*) In Clause 3, sub-clause 1, the performance of experiments is limited, "with a view only to the advancement by new discovery of knowledge which will be useful for saving or prolonging human life, or alleviating human suffering." The General Medical Council would remark that any proposal to limit experiments to such as may be immediately applied to some prophylactic or therapeutic end, and to forbid them in cases where they are made purely for the advancement of science, is contrary to the opinion of the Royal Commission on the practice of subjecting live animals to experiments for scientific purposes, as expressed in their Report (p. xviii.), where it is pointed out that such a "proposal cannot be sustained by reflection upon the actual course of human affairs. Knowledge goes before the application of knowledge, and the application of a discovery is seldom foreseen when the discovery is made." Further, the Council would remark that this sub-clause, by limiting experiments to those which will be useful for saving or prolonging "human" life, or alleviating "human" sufferings, would prevent researches from being carried out with reference to the prevention and treatment of the diseases of the animals themselves. The Council would therefore recommend that the following be substituted for Clause 3, sub-clause 1:—*That the experiment must be performed with a view to the advancement or to the communication of physiological or medical knowledge.*

(*b*) The limitation of all experiments to registered places, as proposed in Clause 3, sub-clause 2, would not only tend seriously to obstruct genuine scientific inquiry, but would also prove impossible in practice. The General Medical Council, however, would see no objection to the limitation being applied to such experiments as are performed for purposes of demonstration. Physiological laboratories, and other public institutions in which experiments on living animals might be carried on for educational purposes, would thus, by a further provision of the Bill, be subjected to visitation by inspectors; while private researches which, in competent hands, might prove of the highest value to mankind, and ought by no means to be prohibited, would, by the system of personal licence and certificate, provided for in other clauses, be restricted to individuals of assured character and attainments. The Council would accordingly suggest that the sub-clause be amended, as follows:—The experiment, *if for purposes of demonstration*, must be performed in a registered place.

(*c*) In sub-clause 1, page 2, line 17, after the word "foregoing," the words *or following* be inserted; and that in line 22 the word *due* be inserted before "instruction"; also that after the word "knowledge," in line 24, the remaining words in lines 24 and 25 be omitted.

(*d*) With reference to Clause 4 the Council are of opinion that in the present state of knowledge as to the properties of *urari* or *curare*, it is inexpedient for Parliament to declare, as in this Bill, that this drug shall not, for the purposes of the Act, be deemed an anæsthetic. They would see no objection to the enactment, in lieu of Clause 4, of the following:—*That no substance should be deemed to be an anæsthetic until it has been proved to be so.*

(*e*) As to Clause 5 the General Medical Council do not see sufficient reasons for specially exempting dogs and cats from experiments. On the contrary, they feel that such exemption would withdraw from investigation carnivorous animals of great value for the purposes of research; whilst, further, the communicability of certain diseases (rabies—hydrophobia, and the diseases dependent on the tapeworm—echinococcus) from these animals to man renders it specially inexpedient that the dog and cat should be exempted from experimental inquiry.

(*f*) That in order to bring Clause 7 into accordance with the suggestion made under Clause 3, sub-clause 2, the Council would suggest the insertion in line 26, after the word "place," of the words *to be registered*.

(*g*) The provisions of Clause 9 appear to the Council not only beyond the necessities of the case, but such as might be made vexatious and oppressive. The Council would suggest that the objects of the Act would be carried out by the following clause:—*The Secretary of State may in any*

case, where he deems it necessary, call upon any person licensed under this Act, to supply him with information respecting experiments carried on under this Act.

(h) As regards Clause 10, the General Medical Council think it indispensable for the just working of any system of inspection under this Act, that every person appointed to act as an inspector should be scientifically competent to appreciate the nature and intention of such experiments as he may witness; and the Council would therefore recommend that such modifications be made of Clause 10 as may secure this essential object.

(i) To the list of presidents named in Clause 11 should be added: *The President of the Royal Society of Edinburgh, the President of the Royal Irish Academy, the Vice-Chancellors and Principals of the Universities in Great Britain or Ireland; and also that the professors of medical jurisprudence and materia medica should be added to the list of professors named in the Bill.*

To persons in the higher ranks of science engaged in special research the frequent application for a certificate such as seems to be required in Clause 11, would seriously interfere with their labours. The Council would therefore suggest that the following addition be made after the word "section" to the last paragraph of that Clause: *And may also, on recommendation of the functionaries above specified, exempt by special licence any licensed person approved of by them from the necessity of producing such special certificates as are mentioned in Clause 3.*

(j) In the matter of appeal in Clause 16, the Council are of opinion that any licensed person who thinks himself aggrieved by the judgment of a court of summary jurisdiction, should have the option of appealing to a superior court instead of the court of quarter session.

JOSEPH LISTER, *Chairman.*

Mr. Lister concluded by moving, "That this Council resolve itself into committee for the purpose of considering this report."

Dr. HUMPHRY seconded the motion.

Sir D. CORRIGAN moved as an amendment, "That while expressing our abhorrence of the infliction of needless pain upon any living animals, we are of opinion that the consideration of Lord Carnarvon's Bill, named 'An Act to Prevent Cruel Experiments on Animals,' does not come within the province of this Council, whose duties are limited by the Medical Act of 1858 and following Acts; and considering, moreover, that the Government has not asked for our advice or interference, we decline as a Council to take any action in regard to the report."

Dr. A. SMITH seconded the amendment.

Sir W. GULL asked the President if such an amendment were in order, as it was to the same effect as the motion which Sir D. Corrigan had proposed on a previous occasion, and which had been rejected.

The PRESIDENT ruled that the amendment was not in order. On Wednesday last the Council decided to consider Lord Carnarvon's Bill. Dr. A. Smith seconded that motion, and therefore could not be allowed to take any part in opposing the present motion.

Dr. A. SMITH said it would be in the recollection of the Council that when he seconded the motion on Wednesday he stated that his only object was to get the Bill entered upon the Minutes, and that he did not wish to be considered as expressing any opinion on the subject.

Mr. Lister's motion was thereupon agreed to, as was also a motion to consider and report paragraph by paragraph.

Mr. LISTER then moved the adoption of the first paragraph of the report, which was agreed to without discussion. He then moved the adoption of the second paragraph, and said there could be no doubt that it was the bounden duty of the Council to take the subject into consideration, affecting, as it did, an important branch of medical education.

Dr. HUMPHRY, in seconding the motion, said it was peculiarly the duty of the Council to interpose at the present time, which might be regarded as really a crisis in the education of the country. There could be nobody upon whom it devolved more imperatively to take up the question than the body whose duty it was to superintend medical education and examination—a body consisting of persons specially qualified to express an opinion upon the subject, having but little personal interest in it, and taking it up simply with the desire to promote the welfare of the country and the profession.

Sir W. GULL was astonished that the Government should have proceeded to legislate on the subject without communicating with the Council, whose legal duty it was to supervise the course of medical studies. Personally he felt it to be a grievance. He was taken from his duties, and asked by the Government to sit on the Council and legislate on such matters, and it was only by accident, or through the public press, that he heard of a Bill being brought before Parliament affecting the physiological teaching of the country. In this way legislation might take place by persons utterly unacquainted with the subject, if the Council were not on the *qui vive*, without their being able to take any part in the matter. He hoped that the subject would be brought before Parliament and the country, for it was certainly a dereliction of duty towards the Council and towards every institution in which medical and physiological science was taught, that the Government should proceed in so arbitrary a way to interfere with the rights of scientific investigators.

Dr. THOMSON said he had arrived at the same conclusion as Sir W. Gull, and thought that the Council should express its decided opinion that it ought to have been consulted in the matter. If it met the views of the Council, he would move the addition of the following words to the paragraph under consideration:—"And regret that the Government did not think proper to consult the Council before undertaking legislation on this subject."

Sir D. CORRIGAN thought that the course pursued by the Government was quite in accordance with the provisions of the Medical Act. Sir William Gull had addressed him in the mildest and most persuasive manner, which it was hard to resist, and expressed his surprise that he (Sir D. Corrigan) should have held the views which he expressed. For himself, he was quite surprised that Sir William Gull, with his capacity and intelligence, should not have understood those views. He could not reply at the time, partly because of his affected feelings (laughter), partly because he might have been out of order. Sir William Gull had failed to quote the whole of the clause of the Act to which he was referring, and omitted all reference to the power given to the Medical Council to report any licensing body to the Privy Council with whose course of study and examination they were not satisfied. No power was given to the Council to meddle with such a Bill as had been brought forward on the subject of vivisection. If the Act bore the meaning which Sir William Gull attached to it, the Council would be entitled to interfere, not with bodies giving insufficient education and examination, but with those who taught their students too well. (Laughter.) The power of the Council was evidently limited to interfering with the course of study when it appeared that it was not sufficient to ensure requisite knowledge and skill; and under the clause giving that power could it be said that the Council was entitled to meddle with vivisection? Did the knowledge acquired from the practice of vivisection prevent a man from obtaining requisite knowledge and skill for the practice of his profession? No one could sustain such a proposition. The Council had passed a law that Greek was not necessary—one of the most extraordinary laws ever passed by it. Would it be said that if any licensing body demanded a knowledge of Greek as part of the preliminary education, the Medical Council should take that body before the Privy Council, and declare its opinion that a knowledge of Greek disqualified a man from practising his profession? He repeated that the Council had no right to interfere in the matter, and wished to remind the members of an old Irish saying, "Do not put your poker into another man's fire."

Mr. QUAIN said he agreed with what Sir Wm. Gull and Dr. Thomson had said, but did not think it would be judicious to make the proposed addition in the report.

The PRESIDENT said it might be well to vote upon the paragraph as it stood, taking the additional words as a subsequent motion.

The paragraph was then unanimously adopted.

Dr. WOOD said the case of the present Bill was exactly one in which Government should have consulted the Medical Council. The fallacy of Sir D. Corrigan's argument was obvious: the Bill certainly did affect the sufficiency of a pupil's knowledge to practise his profession. One of the requirements of the Council was that physiology should be taught in the schools, and if it were the opinion of the Council that vivisection, modified, per-

haps, as it might be, were stopped in this country, the schools would be placed in a wrong position, and the students deprived of certain knowledge which was essential to the practice of their profession. The case was certainly one in which the Medical Council should be called upon to interfere. The Government, who had been lately more in the habit of consulting the Council upon questions relating to the profession, should certainly have consulted it on the present occasion; but whether it was judicious to run amuck against the Government, or pass a vote of censure upon them, was another question. He was disposed to recommend Dr. Thomson to withdraw the additional words he had proposed.

Dr. PITMAN wished to remind the members that the Government had had the advantage of a very large amount of medical evidence given before the Royal Commission, so that it could scarcely be said that they did not take some pains to ascertain the opinion of the profession on the subject.

Dr. THOMSON said he was willing to accede to the feeling of the Council, and withdrew the words he had proposed.

The PRESIDENT desired to state that he had been sent for by the Royal Commission, and especially asked to what extent and in what manner the Council was concerned in the subject, and he replied that he had no special authority to speak on behalf of the Council, because it had not entered upon the consideration of the subject, but added (although this did not appear in the Blue-book) that the Council would have considered it at the last meeting had it not been withdrawn in consequence of the appointment of the Royal Commission.

Mr. LISTER proposed the third paragraph of the report. Everyone, he said, knew that physiology, pathology, medicine, and surgery owed an incalculable debt of gratitude to experiments that had been performed on living animals. Valuable results had accrued to the human race from such experiments, but no doubt such results should be dispensed with if the experiments themselves involved anything morally wrong. With regard to taking the lives of animals for such purposes, it appeared to him that for a man to object to taking the life of a lower animal with a noble and exalted object in view, while he would have no objection at all to sit down to an elaborate dinner of fish, flesh, and fowl, or to crack fleas and bugs, involved a monstrous absurdity. To object to taking the life of a cat for an experiment of that kind, and to have no scruple in drowning superfluous kittens, was surely grossly absurd. The question of the infliction of pain was not perhaps so obvious, yet the infliction of pain was universally held to be justifiable if some important human interest was served, or even if human comfort was promoted. The majority of persons did not object to field sports, yet it had been actually argued in the public papers, by a man who engaged in fox-hunting, that the infliction of pain for the purpose considered in the Act was unjustifiable. For a man who would subject a fox to all the mental torture to which he was exposed in hunting, as well as the physical fatigue and suffering he endured when followed and finally worried by the dogs, to object in the abstract to the infliction of pain, seemed strange indeed. But apart from the question of sport, the great majority of male domestic animals were subject to an exceedingly painful operation. In the case of the lamb, the shepherd's tooth was the agent by which the organ was extracted; and he had seen the most barbarous implements employed in some veterinary establishments for performing torsion upon the cord to prevent hæmorrhage. Not only were these operations painful in their infliction, but they involved serious subsequent inflammation; yet these were experiments that had been performed from primeval times, and would probably continue to be performed, at all events while man was in his present state, and for the same object—namely, to make the horse a docile drudge, and to make the other animals more easily fattened and the better fitted for food. The experience of vegetarians had shown that animal food was not necessary to human life, and man might certainly do without riding or driving horses and donkeys. These operations were performed for the mere purpose of promoting human convenience and luxury. The objects sought by what was designated by the odious name of "vivisection" were infinitely higher. He supposed that no man would object to set a trap for a rat, yet the pain suffered by a rat when caught by the legs and kept for hours in that position was probably greater almost than that inflicted by any experiments of vivisection. He supposed that Mr. Hutton himself would not object to keep a rat cage, and *qui facit per alium facit per se*. For himself he confessed that he could not endure the sight of a cat playing with a mouse. They might perhaps console themselves with thinking that a cat was no more cruel when following its natural instincts in that way than when it was playing with a ball, and the mouse, not having the power of reflection, was not conscious of the fearful predicament in which it was placed, and might when the cat allowed it to run away be happy enough for the time being; notwithstanding these philosophical considerations the sight was one on which he could not bear to look. Looking at the amount of pain caused by vivisection as compared with that produced by the castration of domestic animals going on all over the country, the amount was absolutely microscopic. The pain inflicted upon pheasants in a single day's shooting was probably greater than that caused by vivisection in the British Islands throughout the whole year. The matter was therefore not so important in regard to the amount of pain inflicted by vivisection as many persons imagined. It would, however, be generally admitted that the infliction of needless pain might have a bad moral effect upon investigators if they entirely disregarded the feelings of the animals, and upon the students in witnessing the experiments. They were all agreed as to the importance of avoiding the infliction of needless suffering; no one could desire that "cruel" experiments should be performed; but he protested against the use of that word as commonly applied. Cruelty did not consist in the act of inflicting pain; everything depended upon the motive with which it was inflicted. A father chastised his child, inflicting perhaps a great amount of suffering, but he might be very merciful in doing so. If he chastised for the mere purpose of torturing his son he was a cruel monster. It was chiefly in regard to the influence which the infliction of needless pain might have on investigators and students that he regarded the matter as one of great importance.

Dr. HUMPHRY said there was one point which required to be put distinctly before the public, that experiments upon animals were indispensable to the advance of physiological science. There could be no doubt that as civilisation advanced, and as men clustered together in closer masses, the amount of disease going on steadily increased, and with it there was a necessary deterioration, physically and morally, of the people. The question was, How was such deterioration to be met? It could only be met by the measures which civilisation itself enabled them to carry out—by the advance of medical and sanitary science; and that must depend greatly upon the advance of physiological and pathological science. There could be no doubt that the great advance which physiology was at the present time making was mainly due to experiments upon animals, and to the same source they must look in the main for any future advance. The mine of dead structure had been pretty well worked out, and what remained was to investigate the living process, which could only be done by observations upon living animals. Any legislative enactment, therefore, which seriously curtailed the opportunities of carrying on that work would be most detrimental to the future moral and physical welfare of the country, and the Council was bound to enter its solemn protest against it. The Act would be detrimental to the future welfare of England in proportion as its clauses were strictly carried out. That the Council was not regardless of the infliction of pain might be inferred from the declaration of one of its members, a distinguished physiologist, that he could not bear a sight which was often looked upon with carelessness and even with pleasure. His own experience was that the estimation of pain in others was most especially felt by those who had the greatest opportunity of observing it. There were none who so seriously regarded the infliction of pain, or were so anxious to mitigate the sufferings of others, as medical men, who were most conscious of the real nature of pain, and had most opportunities of observing it. Whilst, therefore, as a Council they made all allowance for public feeling, and even regarded it with respect and reverence, they had a right to complain that a spirit of fairness had not been mingled with that feeling towards those whose duty and whose pain it was to perform experiments

upon animals. There had been too great a desire to bring forward facts that would indicate cruelty on the part of physiologists, and due weight had not been given to the care taken by them to prevent pain by the administration of anæsthetics wherever it was possible. He did not know that he had ever witnessed an experiment in the University of Cambridge in which needless pain was given; if such an experiment had been performed he was quite sure that it would be resented by the University. Some apprehension had been expressed that if vivisection were stopped in this country English students would go to other countries for the purpose of witnessing the experiments. That, however, was not the right ground on which to proceed; the only question was whether it was right or wrong. If vivisection was wrong, Parliament ought decidedly to repress it. He maintained, however, that it was right, and that the future interests of mankind were deeply concerned in its being recognised as right. If that view were taken they might fairly trust Parliament to legislate properly upon the question. If legislation took place on the ground of the practice being wrong restrictions would be introduced that were unworthy the good sense of the country, and would prove to be detrimental to her best interests. If the Bill were to pass in its present form it would be an indication that high and enlightened views of the subject did not pervade the public mind, and that there had been a decadence of intelligence throughout the country; at any rate it would be evidence that a fair view of the subject had not been taken by the Legislature, such as ought to be taken in a country which professed to stand foremost in civilisation.

Dr. SMITH referred to certain difficulties and nice distinctions which would arise under the Act if it were strictly interpreted, especially in reference to the castration of male animals.

Sir WM. GULL said that, in defending medical men from the charge of being indifferent to pain, he wished to call attention to the fact, which the public appeared to have forgotten, that they were the discoverers of anæsthetics. He believed there were no men more feeling, considerate, and humane than medical men. One of the greatest men among them had left a legacy to the College of Physicians for the establishment of an oration whereby the Fellows of the College should be stirred up to search into the secrets of nature by way of experiment. That man was Harvey, who, after many difficult vivisections, had been able to establish the circulation of the blood; yet now in the nineteenth century men were trying to convince the public that experimentation was unnecessary. As medical men, they were, above all people, interested in the proper study of science. There were two sorts of study in the world. The first was that which merely satisfied and met the required conditions; that was the kind of study which very generally prevailed in regard to medicine as well as other branches of knowledge. Under that system a man was physicked in all sorts of ways quite unnecessarily, but his friends were satisfied, and he died and was buried respectably. That was not the kind of knowledge which the Medical Council considered sufficient. There was a knowledge which did not satisfy—a knowledge which was found exceedingly unsatisfactory to ignorant persons. The contemporaries of Harvey said that they would not give a groat for his opinion on medical subjects. His was true knowledge, but it was not considered sufficient. We knew very little about living things. We had been studying them a good many years, and they still seemed to be far out of sight. If they wished to make any real advance they must go far ahead of pharmacopœias and prescriptions in treating this or that disease. No doubt Sir D. Corrigan would say that such knowledge was quite enough, but he maintained that it was not enough. [Sir D. CORRIGAN.—I certainly never said so foolish a thing.] Then he would withdraw the observation. The Council certainly was bound to set up a high standard of knowledge and to see that every effort was made to attain it.

Dr. ROLLESTON said they all seemed to agree as to the indispensability of experiments upon animals. The only question was as to the limitation to be placed upon them. The matter had been discussed for many years at meetings of the British Association and other bodies, and it was now time that it should be settled.

The motion for the adoption of paragraph 3 was then put and agreed to.

Mr. LISTER then proposed the adoption of paragraph 4, and, at the suggestion of Mr. SIMON, divided it into two parts, the first ending at the word "research." In moving the first part of the paragraph, he said he rejoiced to be the mouthpiece of the unanimous feeling of the committee, and he hoped the Council would endorse it as unanimously. They were not aware, in regard to the experiments upon animals, that such abuses existed as would justify exceptional legislation. There was a deep and true feeling of humanity towards the lower animals amongst physiological experimenters, and abundant evidence had been given to show that the medical students were pervaded by the same sentiment.

Dr. HUMPHRY seconded the motion.

Dr. SMITH suggested the substitution of the word "exist" for the words "have existed."

Dr. WOOD thought the words "have existed" or "do exist" would be preferable.

Sir WM. GULL said that a communication had been made some time since to the Senate of the University of London to the effect that certain abuses had been carried on by one of the professors in his experiments upon animals. A committee was appointed to inquire into the subject, the secretary of which was the Master of the Rolls, and the conclusion to which the committee arrived was that no such abuses had been carried on, and that the accusations were a gross calumny, having been made (according to the words of Sir Edward Ryan) "in the worst possible faith."

Mr. MACNAMARA said in the Irish schools all physiological experiments upon animals were conducted in the most humane manner, and unnecessary experiments were not repeated.

Mr. TURNER said that when he first read the Bill he had a feeling of excessive soreness. He regarded it almost in the light of a personal insult to himself and to those who were engaged in biological study. Such a term as "cruelty," in the sense of wantonly and wilfully inflicting pain, ought not to be used in connexion with experiments of physiological and scientific purposes, and he entered his protest against it. He thought that legislation was utterly uncalled for, that it was simply truckling to popular clamour, and not based upon fact.

Dr. THOMSON said that as he had not an opportunity of appearing before the Royal Commission to give evidence, it was right that, as a teacher of anatomy and physiology of long standing, he should bear his decided testimony to the truth of the statements in the paragraph of the report now under consideration. He had seen a great deal of physiological investigations, and knew that on the part of teachers and students there was a feeling the very reverse of cruelty or carelessness in regard to the infliction of pain.

Dr. QUAIN referred to the appointment of a committee to investigate the charges brought against Dr. Klein. There was not, he said, a particle of truth in the statements that had been made to the prejudice of Dr. Klein. After the most careful inquiry, it appeared that all the charge amounted to was that on one occasion, with a view of demonstrating the structure of the cornea of a frog, he had had occasion to scrape it with a knife, and to apply nitrate of silver; and that, on another occasion, a boy belonging to the Brown Institution, where the experiments were performed, had cut off a rat's tail for one of them. It appeared, from Dr. Klein's own evidence before the Commission, that he had only operated on ten or twelve animals in the course of the year, a large proportion of which were frogs; that he had cut off the heads of many cats, but had experimented upon a live kitten only once, and he never had experimented upon a dog for teaching purposes. Dr. Klein had been held up most unjustly to public execration by persons who did not take the pains to ascertain what the facts were.

The first clause of the paragraph was then unanimously agreed to.

Mr. LISTER proposed the adoption of the second part of the paragraph. He agreed with Mr. Turner that any legislation was really unnecessary, but it appeared that it was inevitable and imminent, and the only course therefore to pursue was to diminish the evils of such legislation as much as possible, and to suggest whatever modifications they thought necessary.

Sir D. CORRIGAN thought that the words should be

omitted altogether since they seemed to imply an approval of legislation. He believed with most other members of the Council that no legislation was necessary.

Mr. SIMON said he agreed in great part with the members of the Council who had spoken, not indeed in the sense that he should not be glad to assist Government, but he thought that the expression in the report should be considerably modified. But before he spoke on the point he wished to make a remark with reference to Dr. Klein, whose evidence before the Royal Commission had been used far and wide as an argument for legislation, and whose supposed sentiments had been held up to abhorrence. The degree in which his sentiments were inquired into by the Royal Commission was, he believed, exceptional. Dr. Klein was a foreigner, and probably had a difficulty in catching the import of the questions addressed to him, and might not have been sufficiently precise and qualified in his answers. There was this fundamental fallacy in the case, that he supposed himself to be examined on his sentiments in relation to matters within his own practice, while the Commission supposed that he was answering them as to his sentiments on vivisection generally. When answering the questions, in reference to his own practice, "do you give chloroform?" "do you not heed the sufferings of the animals on whom you experiment?" he treated chloroform as of absolute unimportance; he would give it to save himself from being scratched, or for convenience, and so on. Answers of that sort heard by the commissioners in the sense in which they put their questions, naturally shocked them. They supposed that he was answering with respect to severe operations, such as those of Magendie's (whereas he was only speaking of operations of no more importance than vaccination, involving no suffering at all), and thought he would only give chloroform in such cases for his own convenience. The commissioners declined to admit his corrections in the ordinary way, but inserted a corrected proof in the Appendix. In that way Dr. Klein was placed under a great disadvantage, and had to a great extent been made a scape-goat. He (Mr. Simon) regretted that such a thing should happen in the case of a most meritorious fellow-student. He recognised that persons contending for an important object must sometimes hit hard, but they should also hit fair. The interests of the lower animals were interests well worth contending for, but he would not, for a wilderness of monkeys, have treated a distinguished fellow-student in the way Dr. Klein had been treated. With regard to the Bill under discussion the Council had been considering many of its details, but little had been said as to its general spirit, against which he thought the Council should express its opinion. The Bill would restrict physiological researches, and it was exceptional. Its promoters perhaps scarcely knew what they were bringing upon themselves by its exceptionality. The word "animal" in it had no definition. It was not defined to have the same meaning as in the general law with regard to cruelty to animals. The Home Secretary therefore would be responsible for the anæsthesia given to every tadpole put under the microscope. Nor was the word "painful" defined. It should, he thought, be qualified by some such word as "severely," or it should be declared that the experimenter must use anæsthetics in any such cases as would necessitate the employment of anæsthesia in the human subject. Under the terms of the Act it was difficult to say whether an experimenter might not be called on to use anæsthetics when making a small puncture, which was certainly not a painless operation. If the terms of the Act were construed literally, and in a spirit of mistrust and suspicion towards scientific persons, they might be extremely prejudicial. His objection to the whole Bill was that its spirit was that of suspicion towards the prosecutors of physiology and medicine. If it became law, and were not evaded, it would no doubt be an obstacle in the way of persons who, alleging scientific purposes, might be willing to act cruelly towards animals; but no one cognisant of the truth would pretend that it would apply to any large number of cases such as to justify a serious interference with the legitimate rights of scientific research. The Bill seemed to assume that there was a general willingness among persons engaged in scientific pursuits to be cruel to animals, and therefore it submitted such pursuits to the most stringent regulations. It was against that spirit of the Bill that the Council ought to protest. It certainly was not justified by any statement made by the Royal Commission; indeed, that body exonerated the physiologists of the country from any charge of cruelty. The Bill had been introduced mainly because of the public agitation. The word "vivisection," which the public associated with large and severe operations, had been used to cover the whole subject, and hence petitions had been sent in from all parts of the country that vivisection should be altogether abolished. He had the sincerest respect for the feeling which led, not only the general public, but many most enlightened persons who were not physiologists, to take a very warm interest in the protection of the lower animals against what were called physiological cruelties; but they could not disguise from themselves that the public had been excited by gross misrepresentation. The newspapers had dug up reports of what had taken place in foreign countries fifty years ago. Many of these representations were highly coloured, and the public appeared to forget the vivisections practised by themselves. Castration and spaying went on all over the country, and animals were mutilated by tens and hundreds of thousands for the purpose of making better carriage horses and fatter oxen, involving an amount of pain compared with which that inflicted for physiological purposes was infinitesimal. The public in its outcry against vivisection was denouncing its own acts more than the acts of physiological experimenters, and in seeking to make a law against them it

> "Compounds for sins it is inclin'd to
> By damning those it has no mind to."

It had profited to an unlimited extent by experiments already made, and yet proposed that posterity should be debarred from its due increment of the same sort of advantage.

Dr. WOOD suggested that the last clause of the paragraph should read, "But if there is to be legislation, the Council are prepared to assist," &c.

Dr. ROLLESTON said the real issue was, whether or not legislation was advisable. He thought it was, and so thought two distinguished men of science on the Commission, Professor Huxley and Mr. Erichsen, who certainly would not have put their names to the report if they were not satisfied with it. They had gone through a patient and painful investigation, and were satisfied that evils existed to an extent sufficient to form the ground for legislative interference. The evil might be said to be only microscopic, but microscopic organisms were potent for a great deal of mischief. The present movement was the outcome of a modern development of sensitiveness, and they would be wise in accepting legislation based upon it. It would, as the commissioners said, do away with the prevailing suspicion and abhorrence, and it would further the interest of medical education itself. It was very desirable that persons should not be deterred from entering the medical profession by the existence of scandals. Legislation was also required for several reasons of a sociological kind. It should always be based upon the moral sense of the community, which, during the last thirteen years, had had ample time to shape itself. No doubt there was a great amount of exaggeration in public opinion on the subject, but there was also a great amount of truth in it. Legislation could not afford to disregard the views expressed by persons occupying high and responsible positions. By adopting the recommendations of the committee of the Council, they would, he believed, be reconciling sensibility with science, the instincts of humanity and compassion with the pleasure derived from the pursuit of knowledge. He had recently read a statement by a distinguished German biologist, Weissman, that Darwin's great idea and his works could only have been produced in England. He hoped it might be said by some future Weissman that the introduction of the great principle of the solidarity of man and beast in their claims upon compassion originated in England, and could scarcely have originated anywhere else.

Mr. SIMON wished to remind Dr. Rolleston that it was not the promoters of the present Bill who had first recognised the "solidarity of man and beast"; that recognition having been practically represented in the conduct of medical professors and students during the last thirty years.

Sir D. CORRIGAN desired to express his entire dissent from the idea that might be conveyed by Dr. Rolleston's closing words, that the members of the Council were converts to the opinion of Darwin as to the solidarity of man and beast. He was sorry that such an expression should have been

used. He also protested against the notion that it was their duty to yield to the panic prevailing among the public. His advice would rather be like that of Talleyrand, when asked what should be done on the occasion of a certain great public agitation—"do nothing." The present Bill was mainly supported by a number of pious, good-intentioned ladies. He had recently met one of these ladies, who had just attended "such a nice meeting" on the subject, and had then partaken of an oyster lunch; and he explained to her the process to which she had been a party—the opening of the oyster with an instrument of torture, the cutting across its muscular tissue, covering the animal with red pepper and vinegar, and then swallowing it alive. All this was done merely to appease the stomach, while, if a similar operation were performed in order to teach physiological science, a fine of £100 might be inflicted. He considered the Bill nothing but humbug from beginning to end, and he proposed that the last paragraph should be omitted altogether.

This proposal was put to the Council and negatived.

Some discussion then followed as to the precise wording of the paragraph, and it was ultimately agreed, on the motion of Dr. Thomson, that it should be as follows:—"With this view the Council would suggest that if the present Bill is to be proceeded with the following amendments should be made in it."

The PRESIDENT said that when he was examined before the Commission he abstained from expressing any opinion which might be thought to commit the Council, only going so far as to say that, without the express instructions of the Council, he could not be a party to the view that the biologists of the country required an Act of Parliament to keep them to the line of their duty, and that so far as his own knowledge went he did not think legislation necessary. Now that a year had elapsed, and the matter had been greatly discussed, he wished to express his present opinion, which was that under existing circumstances, looking at the matter as scientific men or as Englishmen, legislation had become necessary, and that to attempt to stop it would be futile and undesirable.

Before adjourning, at the usual hour, the Council requested the President to inform the Government of the progress of the discussion, and to ask for delay in the passing of the measure through the House of Lords.

MONDAY, MAY 29TH.

The Council assembled at two o'clock.

The PRESIDENT informed the members that in consequence of his communication to the Government in regard to the proceedings of the Council on the Vivisection Bill, there was reason to believe that the discussion in the House of Lords would be postponed; so that the matter might be further considered by the Council in due deliberation.

The Council then resolved itself into committee in order to continue the consideration of the report of the Committee on Vivisection.

Mr. LISTER said it had been suggested that a paragraph not included in the report of the committee should follow the last paragraph adopted by the Council, and he accordly proposed the following:—"In the first place the Council must point out to Her Majesty's Government that the word 'animal' is not defined in the Bill, and that unless it be suitably defined not only will physiological studies be embarrassed in a degree which the Council believe is not intended, but also the Secretary of State will be charged with responsibilities which he must find it difficult to meet, with regard to the various lower forms and lower states of animal life. The Council are of opinion that for the purposes of this Bill the word 'animal' should bear the same meaning as it bears or may by future legislation be made to bear in the general law with regard to cruelty to animals. The Council accordingly suggest the insertion of an interpretation clause providing that for the purposes of the Act the word 'animal' shall have the same meaning as in Martin's Act, or that it may have in any future amendment of the Act." There were, he said, animals claimed as such by biologists, which were claimed as plants by botanists. The sponge had long been in the debated territory, and between the sponge and man there were all sorts of gradations. To have it made illegal to operate upon a sponge or polyp would be a simple absurdity. Legislation had already taken place in respect to cruelty to animals, and he thought the same principles as those involved in that legislation should be carried out in the present Act.

Mr. SIMON seconded the adoption of the paragraph.

Sir WM. GULL said that Martin's Act was chiefly directed against cruelty to domestic animals. He thought it would be better to leave the present Act on vivisection as vague as it now stood, without attempting to define what the word "animal" really meant.

Mr. SIMON thought that the Council should make it clear to the Government that if it was seeking to protect the frog or tadpole against the so-called vivisector, while it did not equally protect the same animal against the angler who trolled with it, it was only bringing forward a piece of fancy legislation.

Dr. QUAIN said it was a principle of English law that in any criminal case there should be a clear definition of the crime, and it was the duty of the Council to show the difficulty if not the absurdity of carrying an Act of Parliament which left a crime undefined.

Sir D. CORRIGAN said there was a form of vivisection that had been carried on from time immemorial—namely, the robbing of the bee of its honey-bag. He had often done it himself as a boy. (Laughter.) It consisted in twisting the thorax and abdomen asunder for the purpose of getting the honey and eating it. That certainly was not for the purpose of 'alleviating human suffering, and he supposed it would be rendered penal under the new Act.

Mr. LISTER thought it would be exceedingly desirable that some statement should be made in the Bill as to what animals were included. There might be some general statement limiting the Act to the higher and more sensitive animals.

Sir WILLIAM GULL suggested the use of the term "warm-blooded animals."

Mr. LISTER said that if frogs were included it would be extremely inconvenient to experimenters.

Mr. SIMON said there was a confusion in the minds of many persons between what was right in morals and what was right as a matter of legislation. No doubt they all felt themselves as little entitled to hurt a mollusc or a frog as to hurt a cow or a horse; but in regard to legislation the matter was very different. *De minimis non curat lex.* It might be wrong to hurt a tadpole, but it could hardly be a matter for legislation and the employment of State functionaries.

Dr. HUMPHRY doubted the wisdom of asking Parliament to define the word "animal," and would prefer to see the Act left in its present vagueness. Any definition would probably include more than was desired.

Dr. ROLLESTON said it would be replied that the law had to be carried out by men of sense, and that nobody would think of bringing a charge against a person of meddling with a hydra, which could not be proved to have any nerves at all, or a mollusc, which had a very low sensibility. As a proof of the general care that was taken by experimenters, he observed that Professor Gamgee, of Owens College, stated that he always took the precaution of destroying the brain of a decapitated frog, as there was a considerable amount of sensibility remaining in the head of cold-blooded animals containing the brain and cord.

Mr. SIMON thought it would be very hard for professors of physiology to have to keep a strict account of every frog on which they experimented, and to have to ask the sanction of the Secretary of State for all their proceedings in reference to that animal.

Dr. WOOD believed it was the object of the promoters of the Bill to include all animals ordinarily used for the purpose of experiment. He did not think that the introduction of the paragraph proposed by Mr. Lister was at all required.

Dr. QUAIN said that "animal" was a very indefinite word, and that its employment might lead to great injustice. If a list of animals were scheduled in the Act it might include some that would turn out to be no animals at all.

Mr. LISTER said that, according to Shakespeare, the beetle when trodden upon felt "a pang as great as when a giant dies," but he did not think that was the opinion of physiologists of the present day. Reflex action most intimately simulated the appearances due to sensation. Indeed, the lower one went in animal life the more reflex action showed itself, while, as there was reason to believe, sensa-

tion was diminished. No physiologist believed that the sensation of the worm was proportionate to its activity, the brain of the animal being utterly insignificant, while the spinal ganglia were very strongly marked.

DR. ROLLESTON, alluding to a previous observation by a member of the Council, said that a man who dissected a slug alive was a very great brute, although the animal had comparatively little sensibility. There could be no doubt as to the sensibility of frogs; indeed the animal would not have survived in the struggle for existence unless it had had a considerable stimulus in fear and pain to cause it to run away from the many enemies by which it was surrounded.

SIR D. CORRIGAN would be glad to know under what class a half-hatched egg would come, and would it be considered a penal offence for a man, in the course of an experiment, to break the shell of an egg in which there happened to be a chicken within a short period of its birth?

MR. LISTER proposed that the paragraph under consideration should be adopted only as far as the words "the lower forms of animal life," and the proposal was unanimously accepted by the Council.

MR. LISTER then proposed the next paragraph (a) in the report in reference to Clause 3, sub-clause 1 of the Bill. He said that when he first read the sub-clause in question he supposed that it must have been regarded as susceptible of a liberal interpretation, but he found that many physiological teachers were apprehensive that it might operate very seriously in regard to their teaching, especially against those who were engaged in giving courses of biological lectures, since the Act would prohibit them from teaching students who were not directly aiming at the medical profession—a view which seemed confirmed by the wording of a subsequent clause. It would be a grievous evil if at Oxford or Cambridge physiological experiments were absolutely prohibited except in lecturing to medical students. The University of London included biology and physiology amongst the subjects of a B.A degree. He had often pitied the Arts students who had to read up physiological books without having the benefit of actual experiments. He heartily sympathised in the sentiments of Professor Huxley, as quoted by Lord Shaftesbury, that knowledge was a very different thing according as it was mere book knowledge or derived from actual contact with facts. It was impossible to tell what a discovery might lead to. Galvanic experiments had led the way to the electric telegraph, and galvanism itself was employed in the treatment of human disease. If the present Bill became law, physiological research and instruction might be seriously hampered; and he hoped that the recommendation to alter the clause under consideration would be adopted by the Council.

SIR D. CORRIGAN said that in many parts of Ireland and Scotland lambs' tails were cut off and made into pies, and that if a tourist declined to eat lambs'-tail pie, he might run the risk of being starved. (Laughter.) A difficulty might arise under the Act as to whether these pies were made "with a view to prolong human life."

DR. HUMPHRY said that many experiments were required to be performed not merely for the purpose of new discoveries, but for the correction of those which appeared to be new. Again, it was impossible to tell what experiment would or would not lead to the prolongation of human life or the alleviation of human suffering. Almost all the experiments that had been made had contributed to those objects, though they might not originally have been made with any view of the kind.

The paragraph, with certain verbal amendments, was unanimously agreed to.

MR. LISTER proposed the insertion after the words "discovery is made," of the following: "With this view of the commissioners the Council entirely coincide, for it is impossible to foresee respecting any proper experiment upon an animal that it may not lead to the saving or prolonging of human life, or alleviating human suffering."

These additional words were unanimously adopted.

MR. LISTER proposed the adoption of the next paragraph of the report (b). The limitation, he said, proposed in the Act would tend to obstruct scientific inquiry. This was a point on which he felt very strongly. Some of his friends had not felt it so strongly as himself, because the clause in question would not touch them; but when the matter had been pointed out to them they at once recognised its importance. To the professed physiologist, who did all his work in a physiological laboratory, it would be no hardship to have that laboratory registered; but there were other persons who wished to perform experiments for themselves, and who did not live near a physiological laboratory. It was the characteristic of genius to attain great ends by simple means, and many of the most valuable experiments had been performed in the simplest possible manner. Some reference having been made to his own experiments, he might be permitted to say a word or two with regard to them. In his early days a theory generally prevailed with regard to the stagnation of the blood to the effect that the cause of the stagnation was the contraction of the minute arteries, leading to the aggregation of red corpuscles in the capillaries. He was an obscure person at the time, but he was about to start a course of lectures in Edinburgh, and, not being satisfied with the theory in question, he performed an experiment bearing on that point. He placed a frog's foot on a sloping plate of glass under a microscope, and threw a little warm water on the web, when all the arteries of the web at once became contracted to absolute closure, and he could see no bloodvessels in the web at all. This simple experiment at once upset the theory as to the cause of stagnation of the blood. It was performed at his own private house, and under the Act it would have been decidedly illegal. If it had been necessary to have his house registered, and to be supplied with a licence or certificate, he probably should never have performed the experiment at all. He had also performed another experiment while staying at a private house, that of tying the carotid artery of a calf with a ligature which he had prepared antiseptically. The animal was put under chloroform, and he was assisted in his experiment by some non-professional persons. The animal was kept for a month, and the result of the experiment showed what became of the ligature under such circumstances, how new living tissue was substituted for the dead; a living ligature taking the place of the dead one without any disturbance. That result had been obtained by an experiment which he could not have performed under the present Bill. Many other experiments had been performed in slaughter-houses and other places of that kind. He had once performed an experiment at Dr. A. Thomson's private house. An investigator could not carry about his registered house upon his back as a snail carried about his shell. Such a rule as the Bill laid down would simply restrict all physiological investigations to professed physiologists. He objected even to subjecting experimenters to the expense of a licence. Who could tell what young genius, fresh from his studies and having plenty of time at his disposal, might be deterred from his researches by one or two guineas required for a licence? A good idea nipped in the bud in the course of a century might do irreparable mischief to mankind. He regretted that legislation should be considered necessary, but if there was to be legislation he hoped the Council would protest against the idea of compelling every private individual to register the particular locality in which it might be most convenient for him to perform his experiments.

SIR D. CORRIGAN said the effect of the Bill would be that when experiments were performed in registered places the experimenter would not be able to open his mouth to give any explanation of them, than which no greater absurdity could be conceived. In his own early days, while living at the sea-side, he had been in the habit of cutting off the heads of conger eels in order to get a clear view of the circulation, and had thereby obtained valuable knowledge; but under the Bill he dared not have performed such an experiment except in a registered place. A great deal more cruelty was exercised in crimping salmon for the market so as to get an additional twopence per pound for it than by the experiments of vivisectors.

DR. ROLLESTON, in seconding Mr. Lister's motion, thought the Government would do well to accept the suggestion it contained. It ran counter to one of the resolutions of the Liverpool Congress, which many physiologists had accepted, but he thought notwithstanding it was worthy of acceptance by the Government. It was important to introduce the system of *personal* as opposed to *place* registration.

SIR D. CORRIGAN said that there was another portion of Clause 3 to which reference had not been made: "That the animal must during the whole of the experiment be under the influence of some anæsthetic of sufficient power

to prevent it from suffering." Under that nonsensical clause many of the most valuable experiments could not be carried out; such experiments, for instance, as those that had been performed with regard to glanders, from which such beneficial results had arisen. It was also provided that experiments should not be performed for the purpose of attaining manual skill; but there were operations on the human subject to perform which, with requisite skill, it was necessary first to experiment upon the lower animals. It had been said by an ophthalmic surgeon that in order to perform a certain operation satisfactorily the operator must have destroyed a bushel of eyes. If, in order to avoid such wholesale destruction, the operator used his knife on the eye of a sheep he would be liable to a fine of £100.

The PRESIDENT pointed out that Sir D. Corrigan was going beyond the report of the committee, to which it was desirable the discussion should be limited.

The paragraph was then unanimously adopted.

Mr. LISTER moved the next paragraph (*c*), which was also adopted, with some slight amendments.

The next paragraph (*d*) was also adopted, with certain emendations, the proposed alteration of Clause 4 of the Bill being as follows:—"Neither urari nor any other substance shall be deemed an anæsthetic for the purposes of this Act until it has been proved to be so."

The next paragraph (*e*) was adopted without alteration.

Paragraph *f* was also adopted—namely, "That in order to bring Clause 7 into accordance with the suggestion made under Clause 3, sub-clause 2, the Council would suggest the insertion in line 26, after the word 'place,' of the words *to be registered*."

The remaining paragraphs of the report were adopted, with slight verbal alterations.

The report, as amended, was then received by the Council and ordered to be entered on the Minutes.

The Council then adjourned.

TUESDAY, MAY 30TH.

LORD CARNARVON'S BILL ON VIVISECTION.

On the proposal of Mr. LISTER, it was agreed that after Mr. Simon's motion on the subject of the Report of the Committee on Lord Carnarvon's Bill had been disposed of, the report should be again referred to the committee to correct any inconsistencies or verbal inaccuracies in it, and present it to the Council again to-morrow.

Mr. SIMON proposed, as a rider to the report:—"In conclusion, the General Medical Council would submit to her Majesty's Government that in suggesting the above amendments in Lord Carnarvon's Bill, the Council have no desire to provide legal immunity for persons (if such there are in this country) who, under pretext of scientific purpose, would be willing to act cruelly towards any brute animal. But the Council are satisfied, and they refer to the Report of the Royal Commission in support of this assurance, that in this country there does not exist, nor, in the present state of public and professional opinion, is likely to exist, any appreciable class of such persons. And the Council would deeply regret that her Majesty's Government, in order to provide safeguards against a greatly exaggerated danger, should proceed as if a willingness for cruel action were general among persons engaged in studying and teaching the physiological and medical sciences, and should submit those studies to such minuteness and stringency of regulation as if they were of criminal intention." He said there was a general feeling in the committee that persons engaged in scientific pursuits had very great ground of complaint against the spirit in which the Bill had been conceived. All, or nearly all, the amendments which the Council had adopted referred to points in which that spirit was evinced—a tendency to impose extremely minute and stringent regulations on persons who, in the course of their scientific pursuits, might have to deal with animal life; and the intention of the rider which he proposed was to give, as it were, the key-note to the amendments, and to show, if it required showing, that the Council entirely sympathised with the public in their desire that animals should not be subjected to anything that could reasonably be called cruelty, as compared with the general use which was made of brute creatures. They were willing to accept any reasonable amount of regulation, but they demurred to regulations conceived in a spirit of universal suspicion against the profession.

Sir W. GULL seconded the motion. He was not sanguine enough to believe that in the present excited state of the public mind the voice of reason would be listened to. He considered that the public mind was in an exaggerated frame in respect to these matters, and he felt that one might have as well appealed to the sixteenth century against witches as in favour of careful legislation at the present time on the subject of vivisection. Lord Shaftesbury, to whom perhaps the country owed more than to any other nobleman, had said that if he could he would even carry legislation so far as to prevent any form of vivisection whatever, just as Luther in his time said he wished that all witches were burnt. Lord Shaftesbury seemed to have the same feeling with regard to vivisection that Luther had with regard to witches; but as there were no witches, Luther's animus was utterly misplaced, and he thought a similar observation was applicable to the opponents of vivisection. These people felt that there was a real danger to morals in this country, but he regarded it as quite as unfounded as the idea that there were witches. All the labour of the Council would, however, not be thrown away; it would record that there was a time when medical men stated what they felt to be the truth on this matter. The real question which had been raised by this agitation was whether there was to be an extinction of biological knowledge in this country.

Sir D. CORRIGAN proposed an amendment with a view to make the rider still stronger. He wished to add to the last sentence the words "And, in fine, the General Medical Council submit, on mature consideration, that the whole subject is not one for legislation at present, but may be safely left to the control of public opinion and humane feeling." He would not bind himself to say it might never be necessary to have legislation on the subject, because human nature might become much more cruel and unreasonable than it was now, but he thought the Medical Council ought to put on record an expression of their opinion that at present they considered the question was not one for legislation. From the general expression of feeling at the Board, he was sure not one member of the Council would say that legislation was necessary. He could not agree with Sir William that it was useless to oppose the public excitement; he rather thought it was the duty of the Council to say that whatever good-natured old men or young women might think, the labourers in the science which tended to the alleviation of human suffering were firmly convinced that the subject was not one for legislation at present, and might be safely left to the control of public opinion and good feeling.

Dr. A. SMITH seconded the amendment, as it was in entire accordance with the opinions he had formed in the early stage of the debate.

After a short discussion, it was decided to take Mr. Simon's rider first, and then submit Sir D. Corrigan's proposal as an addition.

Dr. ROLLESTON said the committee had bestowed great pains on the consideration of this report, sitting six hours a day for two successive days, and he thought the Council would do well not to accept Mr. Simon's rider. The motion stated that there was not in this country "any appreciable class of persons" who would be willing to act cruelly towards brute animals; but who could say what the meaning of the word "appreciable" was? A thing might not be appreciable except with the microscope, and yet be a very powerful agent. Again, as a matter of fact, he did not think the rider could justly refer to the Report of the Royal Commission in support of its statement. He had as little respect for public opinion as any human being could have, but he thought the restrictions which it was proposed to place on the practice of vivisection marked a step onward and upward in the progress of the race.

Dr. QUAIN objected to the Council disclaiming any "desire to provide legal immunity for persons who, under pretext of scientific purpose, would be willing to act cruelly towards any brute animal." Was it not unworthy of them to disclaim anything so contemptible, so immoral, so unmanly, so mean?

The motion was put to the vote, and carried with two dissentients.

Sir D. CORRIGAN, in submitting his motion as an addition

to the rider, said Dr. Rolleston seemed to have the idea prominently in his mind that the Royal Commission was to overrule everybody and everything. He, however, considered that there was no public body in the United Kingdom that had said so many foolish things as Royal Commissions, and in the majority of instances their opinions were entirely passed over. He therefore attached no importance to their conclusions. He did not think Sir Wm. Gull had any more authority for saying that legislation on the subject was inevitable than he (Sir D. Corrigan) had for saying it was not inevitable. As far as he had been able to obtain any information, he was convinced that the Minister who had the conduct of the Bill would be exceedingly glad to get rid of it. The best course the Council could adopt would be to say, "We will give the Government any assistance that may be necessary when the proper time comes, but at present we consider that the question ought not to be referred to legislation, and ought to be left to the influence of humanity and public opinion."

Mr. LISTER said he objected to Sir D. Corrigan's proposal, because it appeared to him to be superfluous, as in the early part of the report it was stated, "The Council are not aware that in regard to these experiments such abuses have existed in the British islands to justify exceptional legislation restrictive of physiological study and research." They were all agreed on that point, and that clause of the report really amounted to the same thing as Sir D. Corrigan's motion.

Dr. THOMSON appealed to Sir D. Corrigan to withdraw his motion, as it was extremely desirable that whatever the Council did they should do unanimously. He foresaw that they would not be unanimous with regard to this motion, and he therefore thought it would be better if the motion were withdrawn.

Sir D. CORRIGAN said he could not see the force of Dr. Thomson's reasoning, because the decisions to which the Council had already come had been arrived at after several divisions, and unanimity had not prevailed with regard to other parts of the report.

The motion was then put to the Council, and negatived.

Mr. SIMON proposed "That the rider just adopted be referred, together with the previously adopted sections of the report, to the committee on Lord Carnarvon's Bill, and be brought up to-morrow."

Mr. LISTER seconded the motion, which was agreed to.

Mr. LISTER suggested that the word "severe" should be introduced before the word "pain" in Clause 2, page 1, of the Bill, lines 12, 14, and 23.

Dr. A. WOOD contended that the proposal was not in order.

Sir W. GULL also objected to the word "severe" being inserted. He said there might be all the evidence of pain without actual pain. An animal might contort itself in all the ways that were generally called exhibitions of pain and yet not be suffering pain. It was therefore simply impossible to estimate the severity of pain inflicted on an animal. The question, "What is pain?" was simply insoluble, and he thought Mr. Lister's proposal would only lead to the waste of a great deal of time with no advantageous result.

Sir D. CORRIGAN thought the report should be referred back to the committee for further consideration.

Mr. MACNAMARA objected to Sir D. Corrigan's proposal. If the committee had to discuss whether the word "severe" should be inserted or not, the subject would have to be brought before the Council again, and then there would be a great loss of time. It had already been agreed that the report should be referred back to the committee, but the committee were only to deal with it in an editorial capacity.

Mr. LISTER said he also wished to make an addition to the first clause of the report. The report pointed out as a difficulty that the word "animal" was not defined in the Bill, and yet it did not offer any suggestion to the Government as to what the definition should be. Even if the Bill were adopted with the amendments which the Council had agreed to, there would still be a terrible interference with the progress of biological knowledge. If every animal that writhed and wriggled was supposed to be suffering, and everyone who made experiments with such a moving animal was to be had up for a high crime and misdemeanor, it would have a most disastrous effect on physiological investigation. As the Bill at present stood an exhibition of the circulation of the blood in a frog's web would be absolutely illegal. It was all very well to say that that could not be so because such an exhibition did not inflict pain. If the principle was adopted that the frog suffered as a man suffered then he considered a more painful experiment could hardly be imagined than to tie, so to speak, the finger-tips of a frog with a string. If there was no limitation with regard to the meaning of the word "animal" the Bill might operate in a most serious way, and he thought it was the duty of the Council to suggest some limitation. His suggestion that the word "warm-blooded" should be introduced before the word "animal" had been objected to, and the only other way that occurred to him of securing the object which he had in view was to use the word "severe" before "pain." The question would then arise in any given case whether the pain inflicted was severe or not, and so the case of a sponge would be obviously exploded. He believed that in the case of a frog, when the subject came to be duly considered scientifically it would be understood that a frog's suffering need not be taken into consideration; and the introduction of the word "severe" would prevent any prosecution for trifling experiments upon more sensitive animals. There were many things that would be absolutely prohibited by the Bill as it at present stood, such as the vaccination of an amimal, or the introduction of a fluid into a vein. Some members of the Council probably could scarcely realise that in the present state of public feeling the inoculation of a cow or any other animal with small-pox was regarded as a matter to be put down by law. It might be argued that the word "severe" was indefinite, but so was the word "animal." The definition must be left to the common sense of juries, and he believed the introduction of the word "severe" would offer very good security to the profession, while at the same time it would provide for all that could be reasonably contemplated by the Act. As the Bill at present stood it might be said that taking a salmon with a fly was inflicting pain; but one of the members of the Royal Commission had told him that he had seen a salmon take a second fly after carrying off the first with the former fly still in the pharynx. Surely that was positive and sufficient evidence that the sensibility of a salmon was altogether inferior to that of a human being. If fish suffered as men suffered would it not be altogether discreditable to put a lot of them together in the bottom of a boat? If a number of rabbits were huddled together in that way everybody would consider that something monstrous was done. In the case of fish it was an essential condition of catching them that they should be so thrown together. If, as a scientific body, the Council were aware that the manifestation of movement under irritation was not an indication of pain, they were bound to give some sort of expression to that knowledge, and he believed that the insertion of the word "severe" would tend to mitigate the severity of the Bill. He suspected that the irritation caused by chloroform when applied over the whole surface of the skin of the frog would be very painful, and in many cases less pain would be felt by the animal if chloroform was not administered. A simple incision might be made in the neck of the horse by a practised hand in a second, but if they were compelled by law to give chloroform to the horse they would certainly not be consulting the horse's best interests. The horse would have its legs drawn together, and would fall violently on its side, and the chloroform vapour would get into its bronchial tubes and nostrils, and so inflict pain. He believed that in such an operation it would be more humane to the horse to do without chloroform. Then, again, chloroform sometimes left the creature very much weakened for several days together, and it would not be merciful to it always to give it anæsthetics. He felt he could not do his duty to his brethren who were professed physiologists without trying to mitigate the great evils of Lord Carnarvon's Bill, and he therefore proposed the insertion of the word "severe" before the word "pain."

Dr. ROLLESTON said the reflex action caused by chloroform was not always proof of pain, even if it was accompanied with shrinking and crying. He considered it was unnecessary to use the word "severe," as the whole question was one of expediency. It must not be supposed that magistrates and the Home Secretary would be guilty of gross absurdities in prosecuting scientific men of high position for performing slight experiments. The decision as to what was

really pain must be left to the common sense of magistrates. No one, for instance, would say that injecting morphia under the skin of an animal was a matter for which a person should be punished. No magistrate, with the fear of the Lord Chancellor before him, would ever be likely to make much fuss about such experiments, even though he was urged to do so by any number of fanatics. He, therefore, hoped the Council would accept the report of the committee without spending more time on its consideration.

Mr. Lister's proposal was not seconded, and therefore fell to the ground.

The report was then, after some further discussion, referred back to the Committee for clerical emendations.

REPORT OF THE COMMITTEE ON BILLS.

The Council then resolved itself into committee to consider this report.

Dr. THOMSON moved and Dr. STORRAR seconded, "That the report of the Committee on Bills be received and entered on the Minutes."

This was agreed to.

Dr. THOMSON, in drawing attention to the report, said the committee had felt how undesirable it would be to have long discussions on the questions submitted to it, and they had therefore fallen back as much as possible upon the opinions which the Council had previously expressed. The report was divided into six sections, three of which referred to Parliamentary Bills, and three to communications which had been addressed to the Council. The first section dealt with the Bill introduced by Mr. Cowper-Temple, and he moved its adoption.

Mr. QUAIN seconded the motion.

Sir D. CORRIGAN, in proposing an alteration in one of the paragraphs, said Mr. Cowper-Temple had introduced the Bill because women were precluded from obtaining licences from the examining bodies in this country. If the Council rested their protest on the statement that the registration of foreign degrees was subversive of the main principle of the Medical Act, it would be contended by the supporters of the Bill that they first established a monopoly for men, and then adduced that exclusive monopoly as an argument for not agreeing to the Bill.

Mr. MACNAMARA said the committee had most carefully guarded themselves against giving any decision on the question of the admissibility of women to the profession. The real reason why they were opposed to the registration of foreign degrees was that the Council had no means of exercising any supervision or control over the examinations. This prevented them from registering foreign degrees acquired by men, therefore they would not register women who had obtained diplomas abroad.

Dr. A. WOOD said there could be no doubt that the object of the Bill was to settle the woman question by a side wind, and he objected to such a proceeding. If women were to be admitted to the profession, let them be admitted fairly and honestly by a Bill brought into Parliament for the purpose, and let them be put under proper supervision, but it was not worthy of the British Legislature to admit foreign universities to qualify women for registration here while the licensing bodies at home could not grant such licences to women. He thought the Council would be false to its own position if it did not maintain intact the principle that they would not admit to registration qualifications obtained at examinations over which they had no proper supervision. He had never changed his views on the woman question, and he had often thought it was a most illogical conclusion last year, when the Council said it was not safe for women to practise the medical profession, and then went on to say that they should be admitted to practice. The Council ought to have no difficulty in voting for the motion, whatever opinion was entertained about the admission of women.

The first section of the report was thereupon adopted:—

"The Committee on Parliamentary Bills, &c., having taken into consideration the various documents referred to them, have agreed to the following report:—

"The Committee have to observe that the Bill introduced by Mr. Cowper-Temple, with the exception of a few slight verbal alterations, and the addition of Vienna to the list of foreign universities in the schedule, is precisely the same as that which was brought forward last year, and upon which the Medical Council stated its opinion to the Government (see Minutes of the Medical Council of 26th June, 1875, pp. 132, 134, and 137.) The Committee see no reason for a change in the views of the Council on the questions involved in the Bill, and they therefore recommend that an answer be transmitted to the Lord President's inquiry with respect to Mr. Cowper-Temple's Bill, in the same terms as that of last year—viz., as follows:—With regard to Mr. Cowper-Temple's Bill 'to amend the Medical Act, 1858, so far as relates to the registration of women who have taken the degree of Doctor of Medicine in a foreign university,' considered by itself, and apart from its bearings on the general question whether women ought to be able to look to medical practice, or certain branches of it, as open to them equally with men, as a profession and means of livelihood, the Council have found no difficulty in forming an opinion. By the Medical Act, 1858, the Council are precluded from registering foreign degrees, and, consequently, have been compelled repeatedly to refuse to register foreign degrees held by men. The reason for this is obvious—viz., that the Council have no means of exercising that supervision and control over the education and examination required for foreign degrees to which the licensing bodies of this country, whether universities or corporations, are, by the Act of 1858, subjected. But this privilege, which the Medical Act on this account refuses (and the Council believe, very properly refuses) to men, Mr. Cowper-Temple's Bill proposes to grant only to women. Against such a proposal the Council feel bound to offer a protest, as being subversive of the main principle of the Medical Act. The Committee would further remark that it is deserving of notice that the degrees of Doctor of Medicine conferred by some of the foreign universities of highest repute included in the schedule to Mr. Cowper-Temple's Bill, do not authorise their holders to practise their profession in their own country unless they shall also have passed subsequently, and in addition, a State examination."

The following is the section of the report relating to Mr. Gibson's Bill:—

"With respect to the Bill introduced into Parliament by Mr. Gibson, the Committee would remark that the first part of this Bill appears to have been framed to meet special restrictions existing in Ireland, and that it proposes to open up to all legally qualified registered practitioners all public medical and surgical appointments in the United Kingdom. The Committee is of opinion that before such a measure is passed by the Legislature, it would be expedient to obtain full information as to the effect which the enactment of the Bill (Clause 2) would have in throwing open indiscriminately appointments in public hospitals in the United Kingdom, the qualifications for which are at present regulated by charter or otherwise.

"As regards the further provisions of the Bill (Clause 3) the Committee are of opinion that power should be given to register the degree of Bachelor of Surgery from any University of the United Kingdom entitled to grant the same.

"As regards a degree or diploma in State Medicine or Public Health the Committee are of opinion that it should be registered only as an additional qualification by persons whose names are already enrolled on the Medical Register under the Medical Act.

"The Committee are further of opinion that the privilege of such registration should not be confined to universities, as provided in the Bill, but should also be extended to all diplomas in State Medicine or Public Health granted by any of those bodies included in Schedule (A) of the Medical Act, which may institute the necessary examination."

Dr. THOMSON moved the adoption of the first clause. By Clause 2 of the Bill, he said, it was proposed that all public appointments in hospitals should be thrown open to every registered practitioner. It was somewhat doubtful as to what would be the effect of such a Bill, whether it would merely render all registered practitioners eligible, or impose upon the different bodies the obligation of electing candidates without reference to particular qualifications, provided their general merits entitled them to the place. If the latter were the real meaning, the committee thought it necessary that the circumstances of the public hospitals should be known before legislation was undertaken, though there was a general feeling in favour of the removal of impediments to duly registered practitioners accepting appointments.

Mr. QUAIN seconded the motion.

Mr. TURNER said the Bill had been introduced in order to remedy an injustice in Ireland, where no one was capable of being elected a surgeon to a county infirmary or hospital unless he had letters-testimonial from the Royal College of Surgeons, but many of the clauses seemed to give the measure a much wider scope. Instead of being merely an Irish Bill, as the preamble would lead one to anticipate, it really applied to all the three divisions of the kingdom. That being the case, it seemed to him that the Legislature had not got sufficiently full information on the subject.

Mr. MACNAMARA said he did not by any means admit that any grievance existed from the infirmaries of Ireland being supplied with practitioners qualified by the College of Surgeons of Ireland; but the College did not wish to persevere in any monopoly. They were perfectly willing to have the fullest and freest competition for public appointments. Let the licentiates of the College of Surgeons of England go over and compete with Irish licentiates if they liked; but there should be reciprocity, and the Irish practitioners should also be allowed to compete for appointments in English and Scotch infirmaries. The College of Surgeons in London and the College of Surgeons in Edinburgh had similar monopolies to that possessed by the College of Surgeons in Ireland, and he was quite willing to have the monopoly in Ireland abolished, provided the monopolies in England and Scotland also ceased to exist.

On the suggestion of Mr. Turner, Dr. Thomson consented to alter the last sentence after the word "indiscriminately," so as to make it read, "all public medical or surgical appointments in the United Kingdom," and the clause, with this alteration, was agreed to.

Dr. THOMSON moved the adoption of the second clause.

Mr. QUAIN seconded the motion, which was also agreed to.

Dr. THOMSON moved the adoption of the third clause. Many members of the Council were aware of the great care and attention which the Council had devoted to the whole subject of State Medicine qualification. Since that time the subject had made some progress in the minds of public men, and the general feeling now was that, while it was most important and desirable to grant qualifications in State Medicine upon proper conditions, yet those qualifications should be founded upon the groundwork of a full medical education, so that no person might be qualified to offer advice to the public upon that subject unless he was also well-informed with regard to other branches of his profession.

Mr. QUAIN seconded the motion.

Dr. HUMPHRY suggested the insertion of the words 'diploma or certificate" after the word "degree."

With this addition, the clause was agreed to.

Dr. THOMSON moved the adoption of the last clause.

Mr. QUAIN seconded the motion.

Mr. SIMON proposed as an amendment the omission of the paragraph. He felt considerable doubt as to whether it was desirable to create an entirely new and separate action for a great number of bodies.

Dr. A. SMITH seconded the amendment.

Mr. MACNAMARA opposed the amendment. The Royal College of Surgeons of Ireland was the first body to institute a professorship of hygiene, and ought not now to be told that they should not give a licence in State Medicine.

The PRESIDENT stated that the University of Cambridge at present admitted any registered practitioner to its examination for the qualification.

The time having expired, the debate was adjourned till to-morrow on the motion of Mr. Macnamara.

WEDNESDAY, MAY 31ST.

The consideration of the report of the committee on Mr. Gibson's Bill was resumed. Mr. Simon withdrew his opposition to the last paragraph of the report, which was accordingly adopted. The report of the same committee on Mr. Russell Gurney's Bill was next considered, but, owing to some suggested difficulties, it was remitted to the committee for further consideration. An amendment by Dr. Rolleston, declaring that Mr. Russell Gurney's Bill might be safely recommended, was negatived. Other portions of the committee's report on Bills were also remitted for further consideration. With respect to communications from graduates holding foreign degrees, suggesting that those degrees should be admitted to the Register, the Council adopted the recommendation of the committee, that no qualifications should be entered on the Register, over the education and examinations for which the Council could not exercise the same supervision and control as they did under Sections 18 and 20 of the Medical Act granted by the British licensing bodies mentioned in Schedule A. The Council then considered the report of the committee on the duties of the registrar, which was unanimously adopted.

THURSDAY, JUNE 1.

The Council was occupied for some time in considering the Report on Vivisection, which was adopted, with some slight verbal alterations. The report of the Finance Committee was also adopted. It stated that the income of the Council during the year had been £58,877 19s. 8d. (?)—a sum less by £126 6s. 6d. than the income of the preceding year. The expenditure had exceeded the income by £820 19s. 10d. A motion was then made by Sir Wm. Gull, expressing regret that, after so long delay, no scheme for a conjoint examining board had yet been put into operation. This led to a lengthened discussion. Several members of the Council spoke strongly against the motion, and opposed the establishment of a Conjoint Board, stating that a decided feeling prevailed throughout the country against the one-portal system. The motion, however, was supported by other members, who protested against the Council reversing the decisions at which it had on several occasions arrived. One or two members declared that they had altered their views on the subject, and no longer considered the Conjoint Scheme practicable or necessary. The debate was not concluded when the Council rose.

REVACCINATION.

To the Editor of THE LANCET.

SIR,—I deem the following notes of importance. On account of one or two cases of small-pox having occurred at Aldershot during the early part of the summer of 1870, after obtaining the sanction of the officer commanding, all the men, women, and elder children of the 2nd Battalion 13th Light Infantry were revaccinated; the older soldiers having no records shewing that this had been done on enlistment. I give the results of these vaccinations, together with all subsequent revaccinations to the year 1874, including previous revaccinations beginning in 1868:—

Women, 100 revaccinations; all successful (3 had had small-pox in early life). Men, 1725 revaccinations; 26 failed. Failures of the 26: 13 had been recently successfully revaccinated before enlistment, 4 had had small-pox recently, 5 bore marks of previous small-pox; leaving 4 failures—i. e., the vaccination had not succeeded, and neither by marks nor by their history could it be ascertained that they had ever suffered from variola, though of course they may have had it in some very mild form. Taking these 4 failures as genuine ones, one gets the result that out of 1725 revaccinations only about 2·3 per 1000 of revaccinations failed.

Almost all these revaccinations were done by myself, and the few done when I might be away were afterwards seen by me, and not recorded unless I was satisfied with the cicatrices produced.

In all but the first few cases a scarifier was used instead of the usual lancet; and when having to operate on some eighty arms from the pocks on one child, the scratching instrument enabled me to vaccinate far more quickly.

In this report no cases have been shown as failures until, in case of the first operation failing, it was repeated a second or even a third time.

As a rule, I found that if, in a given number of revaccinations, there were many failures, one constant atmospheric state existed—viz., a very dry air: i.e., when the difference of degrees between the wet and dry bulb thermometers was marked—a phenomenon easily explained by the lymph remaining fluid or drying up quickly.

I am, Sir, your obedient servant,

Aldershot. W. H. T. POWER, B.A., &c.

THE LANCET.

LONDON: SATURDAY, JUNE 3, 1876.

AT the time of our writing the Medical Council has been sitting for a week, and has still the most important part of its business to get through. On Wednesday evening the President said truly that there yet remained on the programme an amount of business large enough to occupy a whole session. The Council may be said to have spent three whole days at least over the subject of vivisection. We adhere to our objection of this use of the Council's time; and for various reasons. Whether or not it is the Council's duty to concern itself with the provision of facilities for advancing the solution of the higher questions in Anatomy, Physiology, and Medicine, it has never yet acted as if it were. And this for the very good reason that the defects in common medical education have been very glaring and urgent. Its first duty is so to improve the system of medical education and examination that there shall be an ample supply of well-educated medical students ever ready to meet the demands of the public for qualified medical practitioners. Up to this very time the ordinary boards are rejecting a large proportion of men for gross ignorance of common and accepted anatomical and physiological facts. The experience of examiners is that men come up full of high-sounding notions about cells and cytoblasts, yet uninformed as to the coarse facts in anatomy—thinking, for example, the liver to be on the left side of the body, and ignorant of the muscles affected in club-foot. This ignorance is disastrous to the students themselves, and to the public. And it is so great that examining bodies, not disposed to be too stern, reject almost as many as they pass. The investigation into the faults of the system of teaching that turns out such badly-educated men is the first duty of the Council, and to this day it has not been seriously undertaken. And instead of being taken at the beginning of this session, when the Council was fresh and strong, it is postponed in favour of the subject of vivisection. It is not as if the Council's opinion on this subject had been asked for by the Government. Dr. THOMSON on this point saved the Council from assuming an undignified position. In the first report of the Committee on Vivisection it was suggested that the Council should advise the Government. Dr. THOMSON, with good judgment, proposed that the Council should put its opinions on the subject before the Government in the form of suggestions merely. Gratuitous advice on the part of a Council is not more commendable, or more likely to be appreciated, than in the case of individuals. Having other urgent duties on hand, the Council was the less bound to spend three days and three or four hundred pounds over this question, inasmuch as no less than five of its leading members had given evidence before the Royal Commission, and further, inasmuch as there are other bodies which might well be thought charged with the duty of representing the necessity for care in making legislative restrictions on vivisection—such, for example, as the Colleges of Physicians, the Colleges of Surgeons, the Universities, the Royal Societies, the British Medical Association, &c. &c. Even those who think that the Council were right in volunteering to take up this question will find it difficult to explain how it should have spent so much time over it, seeing that the Council was perfectly unanimous as to the objectionable features of the Bill.

Having said thus much in disapproval of the consumption of so much time on a subject with which the Council is not immediately concerned, we are the more free to admit that several speeches in the course of the debate were very good and creditable to the Council. Sir WILLIAM GULL, Sir DOMINIC CORRIGAN, Professor LISTER, Mr. SIMON, Dr. QUAIN, Professor HUMPHRY, and others, put the advantages of careful experimentation in a very strong light, which must increase the misgivings of Ministers who really wish intelligently to further the cause of "man and beast."

In the course of Tuesday afternoon, the sixth day of the sitting, the Council tore itself away, but only for a time, from the absorbing subject of vivisection, and proceeded to discuss the reports of its committees on the several Bills now before Parliament. Mr. COWPER-TEMPLE'S Bill for legalising the registration of foreign degrees granted to women was the subject of elaborate consideration by the Council last year, as our readers will remember. The Bill is too absurd in its main proposal to admit of serious discussion, and the Council very properly referred the Lord President to its reply to his communication on this subject last year. The Bill of Mr. GIBSON, also discussed on Tuesday, is an interesting contribution to the abolition of monopolies of licensing privilege. At present only Members or Fellows of the Royal College of Surgeons in Ireland can be elected surgeons to the county hospitals or infirmaries in Ireland. There are, we fear, some instances of similar narrowness in Scotch and English hospitals. But in Ireland the case has this twofold feature, that the monopoly exists by Act of Parliament, and that the said hospitals are supported largely out of county rates. With a Medical Act recognising the sufficiency of qualifications granted in one division of the kingdom for purposes of general practice in every other division, it is absurd to retain these rags of territorial privilege. And Mr. MACNAMARA, with characteristic heartiness and liberality, said that the Irish College had no wish that this monopoly should be perpetuated provided that in each division of the kingdom, in regard to all public medical and surgical appointments, there was a recognition of the equal legality and sufficiency of all British qualifications. The Council, while condemning the monopoly of the Irish College, very properly suggested that before such a measure as Mr. GIBSON'S is passed, full information should be obtained as to the effect the Bill would have in throwing open indiscriminately all public medical and surgical appointments in the United Kingdom the qualifications for which are at present regulated by charter or otherwise. Mr. GIBSON'S Bill provides further for the registration of the degree of Bachelor of Surgery and of degrees or diplomas in State Medicine by universities. This limitation of the power of granting degrees or diplomas in State Medicine to the Universities brought up the Corporations in great force to claim the power of granting

similar diplomas. Foremost among the champions of the Corporations again was MR. MACNAMARA, who referred with just pride to the fact that the College of Surgeons of Ireland was the first body to appoint a professor of hygiene. MR. SIMON, seeing the apparition of nineteen new qualifications clamouring for admission to the Register, was disposed to halt, and postpone the question till the millennium of conjoint boards. But the corporations were too strong to permit this course, and even MR. SIMON admitted himself to be converted by MR. MACNAMARA'S arguments. There certainly does seem no reason why a body that is capable of examining in ordinary Medicine should not be trusted with the duty of instituting an examination in State Medicine. In the end the Council suggested that all diplomas in State Medicine or Public Health granted by any of the bodies included in Schedule A of the Medical Act should be made registerable.

At the last moment of our time a somewhat disheartening discussion on Conjoint Schemes is going on.

THE subject of Localisation of Function and Disease in the Brain has attracted considerable attention since the discovery of FRITSCH and HITZIG. The admirable lectures of Professor CHARCOT at the School of Medicine of Paris, and the researches of Dr. BROWN-SÉQUARD, the results of which have been communicated by him to several medical audiences in Boston and in Paris, have clearly shown the practical aspect of the study. Knowing that Dr. BROWN-SÉQUARD intends to deliver lectures in several parts of England this summer on the subject, it may be well to give a summary of the new views of that physiologist.

According to the beliefs universally entertained, the left side of the brain is the centre for volition and movements of the right side of the body, and, *vice versâ*, the right side of the brain for the left side of the body. It is also admitted that one side of the brain contains the centres for the organs of sense of the other side, with the exception that (according to WOLLASTON'S views) the centre for the outer half of the right retina, and that for the inner half of the left retina, are on the right side, and *vice versâ* for the other halves of the retinæ. Dr. BROWN-SÉQUARD believes that all these fundamental views are absolutely wrong. He has collected a large number of facts which prove, according to him, that each half of the brain has two sets of conductors, one going to the right half of the body and the other to the left half. He believes that it is so, not only as regards voluntary impulses and common sensations, but also for the various senses. In other words, he contends that each half of the brain is perfectly sufficient for all the actions of muscles, of sensitive nerves, and of the organs of sense, on the two sides of the body. Of course, he is fully aware that every day physicians have under their eyes facts which seem to contradict this view. It is a matter of most frequent observation in the practice of a physician to see a patient who has lost the power of motion and sensibility in one half of the body from disease in the opposite half of the brain. He argues that the question is not whether such a fact contradicts or not his view, but whether that fact is or is not to be explained by admitting that the paralysis and anæsthesia are dependent upon the destruction of a centre or of the conductors for voluntary movement and sensation. There lies the vital point in the new views of Dr. BROWN-SÉQUARD. He has accumulated facts which he believes negative the theory that paralysis, anæsthesia, amaurosis, aphasia, and other effects of brain disease depend on a loss of function of either the centres or conductors specially employed in voluntary movements, perception of sensations, power of expressing ideas by speech, &c. Dr. BROWN-SÉQUARD endeavoured to prove, for the first time, in his Gulstonian Lectures delivered at the College of Physicians in 1861, that a lesion of one limited part of the brain may produce any symptom; and that, on the other hand, the same symptom may appear, no matter where the seat of the lesion may be. Facts of these two kinds are alone sufficient to show that we are not to look upon symptoms as manifestations of the putting in play of a property, or as direct results of the loss of function of the part diseased. But there are many other arguments brought forward by Dr. BROWN-SÉQUARD to establish his proposition that the origin of brain symptoms is not what it is believed to be.

If we take, for instance, the history of paralysis, we find—1. That a lesion in any part of the brain can produce paralysis either on the same side or on the opposite side of the body.* 2. That paralysis can often appear and disappear although the lesion causing it is a permanent one. 3. That there is no relation whatever in many cases between the extent of a lesion and the degree and extent of a paralysis. 4. That a paralysis may be brought on suddenly, whereas the lesion causing it has existed for some time already, or appear gradually and slowly, although the lesion is a sudden one. 5. That a paralysis can appear on one side, then on the other side, although the lesion remains in one half of the brain. 6. That a paralysis can appear in the arm on one side, and in the leg on the other side, from a lesion in one side of the brain. 7. That paralysis can strike three limbs from a lesion in one side of the brain. 8. That paralysis can strike the two lower limbs or the two upper limbs alone from a lesion in one half of the brain. 9. That paralysis can appear in one half of the body from a lesion involving equally the two sides of the brain along the middle line. 10. That paralysis may appear in a few muscles only, either in the face, or the trunk, or the limbs, from a disease above the pons Varolii. 11. That a paralysis of the sphincters of the bladder, or of the anus, may result from disease in any part of the brain. 12. That the so-called altern paralysis may appear from a disease above the pons Varolii. 13. That hemiplegia when complete is almost always accompanied by some paralysis on the other side, although the producing disease exists only in one half of the brain.

If we examine what relates to convulsions, we find, according to Dr. BROWN-SÉQUARD, that what is seen for paralysis is seen also for spasmodic movements. We will point out here this interesting fact, that a lesion in the right side of the brain can produce convulsions indifferently on the right or the left side of the body, while a lesion in the left side of the brain, if it does produce unilateral convulsions, will cause them to appear almost always on the right side.

* See Dr. Brown-Séquard's Lecture in THE LANCET, January, 1876.

As regards vision, facts show that a disease in one half of the brain can produce hemiopia either in both eyes or one, and in the corresponding or the opposite halves of the retinæ, or a complete amaurosis of either of the two eyes, or of both together.

As regards other symptoms, such as anæsthesia, aphasia, loss of consciousness, &c., Dr. BROWN-SÉQUARD endeavours to show that they also may arise from lesions in almost any part of the brain.

Considering the immense variety of phenomena originating from a lesion in one and the same part of the brain, and in presence of facts showing that any limited part of the brain can be destroyed without loss of function, Dr. BROWN-SÉQUARD has come to the conclusion that symptoms take rise, not from the loss of action of the diseased part, but from an influence exerted on distant parts of the nervous system by a lesion limited to a part of the brain. He considers the appearance of symptoms as depending on essentially variable conditions of excitability of the nervous tissue round diseased parts. He is convinced that it is impossible to sustain the old theory called the clavier theory, and that we must, on the contrary, admit that a few fibres alone are sufficient to establish full communication between the cells of the spinal cord and the cells of the brain. He holds that there are two sets of conductors, one decussating and the other direct, between each half of the brain and the spinal cord. He maintains that the seat of each special function of the brain, instead of being, as admitted, a cluster of cells localised in a small part of the brain, is disseminated, so that the cells belonging to each are spread over a considerable extent, if not the whole extent, of the brain. He states that there is no more difficulty in admitting that cells that are at a distance of many centimetres one from the other can communicate or act together, than to admit that they can have intercourse when they are at a distance of half a millimetre or less from each other. He believes that symptoms of loss of power, such as paralysis, anæsthesia, amaurosis, aphasia, &c., are due altogether to an inhibitory influence exerted on cells, some near, others far or very far from the place of the lesion. For him, whether amaurosis affects both eyes from a lesion of the spinal cord, or of a sensitive nerve, or of the brain, it is owing in all these cases to an inhibitory action on visual cells, either in the two sides of the brain, or in the retina, or in both parts. Again, if aphasia appears when there is a disease in any part of the left side of the brain, either the third frontal convolution, or the insula, or any other, it is owing to an inhibitory influence exerted on cells serving to the expression of ideas by speech, wherever these cells are located. We repeat that paralysis and anæsthesia also appear, by a similar mechanism of inhibition, wherever the disease producing these symptoms may exist.

In respect to the group of symptoms consisting in a morbid activity in cells of the brain, what takes place on the occurrence of those symptoms is a setting in action of normal properties by an exciting cause. So that either here, or as regards the phenomena of cessation of an activity, the same cause primarily exists—an irritation.

Dr. BROWN-SÉQUARD has no doubt that the old theories must be given up. He is sanguine as regards his power of demonstrating that a great part of his new views is already established by facts, but he acknowledges that some portion requires additional corroboration. He hopes that others will help him in the demonstration of the correctness of his views, or show him in what he is mistaken, and his object in delivering his lectures in England is precisely to have that help or that criticism.

BY the Public Health Act of 1872 the medical profession for the first time was brought into official use throughout the country for the prevention of disease. This Act rendered compulsory the appointment of a medical officer of health in every sanitary district in the kingdom, and thus recognised the fundamental necessity of medicine in public health administration. The Act provided also for the recognition of medicine in the central as well as the local public health service. The Legislature, in fact, adopted the suggestions of the Royal Sanitary Commission of 1869-70 on this subject, which had in view a complete medical organisation "guided from the central office with the highest attainable medical and scientific knowledge"; and it showed how this central guidance was not only consistent with that local self-government which it described as "of the essence of our national vigour," but was also essential to its due maintenance. Thus interpreted, the Act of 1872 would have placed the medical profession in its just relations, as to sanitary administration, with local authorities on the one hand, and with the central authority on the other, and medicine would have had a no less dignified position in the civil than it holds in the military and naval organisation of the State. We all know how the Department of the State created to initiate the Act set wholly aside the skilled advisers provided for it in undertaking this duty, as well engineering as medical, and selected for its agents in performing this important task such of its officers as had not merely no acquaintance with the subject-matter of the Act, but who had already shown their utter incompetence in dealing with such slight ramifications of the subject-matter as came within the sphere of their former duties. In other words, instead of administering the Act in its relations to sanitary organisation, as the Royal Sanitary Commission had proposed, with the help of the highest attainable medical and scientific knowledge, the Department discarded both, and substituted for them the highest attainable ignorance, which it was pleased to term "common sense." As the necessary complement of this policy it taught local authorities to regard the inspectors of nuisances—with few exceptions, men of imperfect education and with no previous experience of or training in their duties—as the exponents of sanitary knowledge and practice, and it deliberately drafted its regulations as to the duties of these officers from this point of view. The medical officers, as well of the local as the central administration, were to be held in reserve, acting only when called upon by the sanitary authority, whom it was presumed they were to advise, and when the occurrence of disease had proved that measures of prevention had failed. The function of medicine in public health administration, according to the policy of the Local Government Board, was and is to act as an occasional dictionary of reference and as a subterfuge from scandals.

The natural result of this policy is seen in the present hopeless dead-lock of sanitary administration—central and local—and, so far as medicine is concerned, in the medical officers of health, on the one hand, and the medical officers of the Government on the other, being left in an anomalous isolated position, as well in regard to their authorities as to each other, which has generally frustrated the object of their appointment. Anything more discreditable to the Government than this state of things, or more derogatory to the medical profession, it would be difficult to conceive. But would this have been possible had Medicine been true to herself? We believe not. Medicine in fact, as such, has had no place in all the work of sanitary reform and sanitary legislation. Individual medical workers, in great numbers, have played their part, and so have associations of medical men, but the great representative bodies of medicine have had neither part nor parcel in the work. Thus, it has come to pass that while, on the one hand, the Legislature has acknowledged the necessity of the medical profession forming an essential element in the public health service, the study of public health and hygiene does not form an essential part of the study of medicine. While this absurd anomaly exists, and medicine is, so to speak, divided against itself, how is it possible for the medical profession to be other than the cat's-paw of a department, or of a politician. This closely concerns the Medical Council. During all the struggles for the due recognition of the medical profession, in fact as well as in word, represented by Mr. SIMON, all the great corporate bodies remained passive to the important professional questions at issue. We cannot affect to be surprised that statesmen should display no more sensitiveness to them, or to the dignity of the profession, than is displayed by its recognised corporations. After generations will read with amazement of the College of Physicians becoming acutely anxious respecting the single question of the dwellings of the labouring classes, while it was heedless of the broader considerations of sanitary polity which underlie that question; of universities competing with each other in instituting examinations in public health to catch the movement of the moment, while the provision for instruction in the subject is almost *nil*; of the Legislature providing that any registered medical man may become a medical officer of health, while the Medical Council, standing magnificently aloof, has not even seriously considered how *every* medical man shall have the knowledge which the State may require from him!

Annotations.

"Ne quid nimis."

THE VIVISECTION BILL.

IT is remarkable that this measure, fraught with such importance to the medical and scientific profession in this country, has hitherto received such scant attention from those whom it most concerns, and there can be no doubt that in medical circles it is regarded, strangely enough, with something akin to apathy.

There are one or two points, however, in the measure now before Parliament which are deserving of earnest attention, and on these we would make a few brief remarks. The Bill strangely departs from the report of the Royal Commissioners in this respect, that it wishes to impose upon physiologists a *limitation of purpose*, as it decides that only such experiments as have some definite practical aim for alleviating human suffering are justifiable. Since it is well recognised that the results which flow from discovery are rarely even dreamt of at the time such discovery is made, and that the experiments made for practical, as distinguished from mere scientific, purposes, have not unfrequently been of the most needless nature, it is hard to see on what grounds this clause is to be retained in opposition to the very distinct views on the subject set forth in the report of the commissioners.

Again, it seems unjust to expose—as this Bill will expose—licensed teachers to vexatious prosecution on the part of any philanthropist who may interest himself in the matter. The mere fact of granting a licence for experiment ought to indicate that the person licensed is regarded by those who recommend him for this privilege as a trustworthy and reliable person; and although we would by all means subject him to control by those who have the requisite knowledge to exercise it, we would at the same time protect him as strongly as possible against meddlesome interference on the part of amateurs who might take action on foolish if not unworthy grounds.

Lastly, we are of opinion that physiologists might well be left some freedom of choice in the animals selected for experiment. At present it is absolutely altogether prohibited to experiment either with the cat or the dog; and although we would willingly use every means to protect the faithful companions of man, we must, nevertheless, bear in mind that there are some few physiological questions which can only be answered by the carnivora, and for the investigation of which rodents are in no way suited.

We very much fear that, if the Bill is passed in its present form, the scientific investigation of biological questions must come almost to a standstill in this country; but, if the few alterations we have suggested be introduced, we shall have a measure which, while it will impose very desirable restrictions upon needless experimenting, will in no way interfere with legitimate scientific inquiry.

We may put the case in this way: if the Bill now before Parliament had been passed two centuries ago, our illustrious countryman, William Harvey, might have figured in the police reports, on the information of any enthusiastic humanitarian, for making those very experiments which have been productive of the best results, not only to man, but to the brute creation as well.

OUR CANAL POPULATION.

ATTENTION has repeatedly been drawn to the disgraceful condition of the bargemen and their families afloat on the different canals of England. To Mr. George Smith the undoubted credit is due of first drawing attention to this important subject in an article in the September number of the *Argonaut*, 1874. He was attracted, he says, in early life to the subject whilst working in the brickyards close to the canals in Staffordshire, where he saw "sights that have haunted him night and day ever since." Two other workers have been equally indefatigable in bringing the evils, sanitary and moral, to public light—viz., Captain May, of the Factories Department, resident at Congleton; and Dr. Swete, the medical officer for Droitwich. The number of persons engaged in canal navigation has been variously estimated; Mr. Smith puts it at 80,000 to 100,000 men, women, and children, all living and sleeping in the close confined cabins of the canal boats. These cabins average about eight and a half feet long, five feet high, and six and a quarter wide, giving a capacity of about 250 cubic feet.

Into these dens are crowded at night a man and his wife, and often as many as six children—Captain May has known as many as nine! We are informed that small-pox and fever are the two principal diseases the "boaters" suffer from; the barge, therefore, passing through densely populated districts, is admirably adapted for the conveyance of infectious disease, and is thus more deadly than the Regent's-park "torpedo." Practically these barges are considered for sanitary purposes to be houses, and as such to be under the control of the sanitary authority; but, as Dr. Swete remarks, it is almost impossible to exercise any supervision over such a fleeting population. Of the degraded nature of the population Mr. Smith speaks in the following terms:—"Their habits are filthy and disgusting beyond conception. Swearing and drunkenness seem to be the ruling passions. The women are coarse and vulgar, and, if anything, can outdo the men in coarse and obscene language and disgusting conversation." Mr. Smith thus graphically describes a primitive sanitary proceeding, in frequent requisition, we should fancy, on board these boats. "No. 1 boat was depopulated, and cabin hermetically sealed, and completely enveloped by a tarpaulin cloth, and the chimney closed with a sod. The woman said 'the cabin was closed for the day for the purpose of bugging.'" This was done by burning seven pounds of brimstone inside. On board this barge lived seven people, the man, his wife, a baby in arms, and four children. One of the children, of twelve or thirteen years, did not know his age, had never been to school, could not read or write, had never been to church or chapel. We are, therefore, glad to see this subject made the matter of a special communication by Mr. Robert Baker, in the Reports of the Inspectors of Factories, to the Secretary of State for the Home Department. Mr. Baker, after consideration of the proposals by many writers and thinkers as to the best mode of dealing with the question, comes to the conclusion that the only solution lies in forbidding by enactment any barge navigating, on any branch river or canal, containing any child, female young person, or woman. Such an enactment would strike at the root of the evil; and it seems feasible, since Mr. Baker points out that it has been in voluntary operation on board the barges belonging to a few of the better class of barge-owners and contractors. We sincerely hope that Parliamentary action will soon be the result of Mr. Baker's report, and that these poor creatures may be rescued from the squalor, ignorance, and degradation into which they have been allowed to drift, and that the barge will be prevented from carrying through the country its too often infectious freight of human beings.

PROFESSOR BEHIER.

THE death of Professor Béhier, which we recently recorded, will be greatly felt in Paris. Although he is, perhaps, but little known in England, we may briefly record some personal recollections of him.

As the successor of Trousseau as Professor of Clinical Medicine at the Hôtel Dieu, Béhier occupied a position which could hardly be an easy or a enviable one. Many of the pupils and admirers of Trousseau looked upon Béhier as a mere imitator of Trousseau, and were in the habit of instituting invidious comparisons between them. But although he may not have been so great a genius as Trousseau, he was at least a hard-working and painstaking clinical observer. He succeeded in attaining great popularity as a clinical teacher and lecturer, and his *cliniques* were not only well attended, but were very valuable. His clinical lectures were no doubt open to the criticism of Billroth on the clinical lectures of the French school in general, that they were in reality orations, prepared with immense labour and thought, and were in no sense mere clinical disquisitions on a given case; but they were none the less valuable as being the result of hard work and careful observation. Both in the wards and in the pathological laboratory, Béhier was an indefatigable worker, and he spared no time or pains in investigating the cases on which he had to teach. Somewhat dry and cynical in manner, during his visits to the wards, where, as might be expected from his position, the professor was often surrounded by fifty or sixty or more students; fond of giving raps on the knuckles, not merely metaphorical in all cases—for we have seen him impress an error in diagnosis on one of his *externes* in a somewhat forcible manner,—he was in private life genial and courteous, ever ready to discuss the views of others and to gain knowledge from his juniors. Hence he inspired in them enthusiasm and a love of work and investigation, by which in turn he profited in his public teaching. The foundation of the pathological laboratories in Paris was in large measure owing to his support, and he might often be found in that of the Hôtel Dieu diligently studying some pathological phenomenon of interest. It may be added that he was a great admirer of the scientific leaders of the profession in England, and diligently endeavoured to acquaint himself with their researches and views, failing, doubtless, to some extent, owing to a not very good knowledge of the language. Yet, on the other hand, he liked nothing better than to twit an Englishman, if he saw one going round his wards, with some of the peculiarities of theory or practice on this side of the Channel, not unfrequently greatly to the amusement of the admiring students, and the discomfiture of the bashful Briton. In the deaths of Duchenne and Béhier the Paris medical world has lost during the past twelve months two men whom it could ill spare.

MARSH-WATER A VEHICLE OF AGUE-POISON.

THERE is a considerable amount of evidence in favour of the correctness of the belief—and a very old, widespread belief it is—that malarious fevers may be generated by drinking the water of marshes. The opinion of Lancisi that the air of marshes is the sole cause of intermittents has been so generally adopted that the production of the disease by water as well as air has been overlooked. Dr. Parkes, in his work on Practical Hygiene, has brought together a large number of facts in support of this view, and he makes the suggestion that the great decline of agues in England may be partly attributable to the purer drinking-water now used. Formerly, there can be little doubt, when there was no organised supply, and much fewer wells existed, the people were dependent for their supply upon surface collections and ditches. The facts connected with the well-known case of the vessel *Argo*, recorded by Boudin, which had been supplied with water from a marsh, are extremely strong; still, several excellent authorities deny that water is a vehicle of the marsh poison. In connexion with this subject the following circumstances, related in the last Army Medical Blue-book, possess much interest.

The troops at Tilbury Fort are supplied with water collected on the roofs of buildings, and stored in underground tanks at or below the level of the subsoil and high water-mark of the river Thames. The officials and servants at the railway station a few hundred yards distant obtain their supply from another source—viz., spring water pumped up from an ordinary well about a mile and a half inland from the Thames. Besides the railway *employés*, a small body of coast-guardsmen, occupying a ship lying in the river mud and just outside Tilbury fortifications, are supplied with this water. Now ague has for some long time past been common among the troops at Tilbury Fort, and almost an-

known at the railway station. During some cleansing and repairs to the tanks, spring water was obtained from the latter source for several months together, during which time ague disappeared from among the soldiers at Tilbury, but on the tank water being again brought into use, cases of ague again made their appearance, the disease ceasing on discontinuing that source of supply. Samples of water from these different sources were forwarded to Netley for chemical analysis and examination, when it was found that the amount of organic matter in the tank water was greatly in excess of that in the spring (railway station) water, while the presence of vegetable and fungoid matter made it evident that there had been soakage of water from the surrounding marsh into the tanks.

IGNORANCE IN HIGH PLACES.

WE should scarcely have supposed it possible that any man of position and experience in public life, with the stock of general information great social and political influence implies, much less a statesman distinguished for his sound practical sense and far-sighted administrative acumen, could have originated a paltry proposal to reduce the estimates for furnishing a lunatic asylum by the sum of a small charge for musical instruments, pictures, ornaments, and flowers. No less a person than the Marquis of Salisbury, in his capacity as chairman of the Middlesex magistrates, propounded this startling project on Friday last, when the grant for furniture at Banstead was before the Board. Of course the reduction was urged in the interests of economy, the money to be saved being "the hard earnings of struggling and heavily-taxed ratepayers;" equally of course the recommendation was made "on principle." When a wise man does, or attempts to do, anything remarkable for its "unwisdom," he invariably acts on *principle*; the compelling force is a strong sense of duty, and the excuse a keen appreciation of propriety. Happily in this instance the magistrates generally were less under the blinding influence of public sympathy. They retained the control of their reasoning faculties; and knowing, as every observant administrator must know, that it is not economical to be niggardly, remembering that it has been repeatedly demonstrated and is now universally conceded that the presence of humanising surroundings in an asylum not only saves money by expediting cures, but by producing quiet, and so obviating the necessity for a large staff of attendants, they rejected Lord Salisbury's proposal with the scant consideration it required. It would be absurd to adduce a single argument in support of the view taken and boldly asserted by the majority. It is inexplicable that any enlightened man should entertain a doubt of the expediency of making the provisions submitted by the framers of the estimates, and it would be interesting to ascertain whether it is possible his lordship can be so antiquated in his opinions on the subject of insanity and its requirements as this extraordinary proposal seems to indicate.

SCOTCH'D, NOT KILLED.

OUR self-gratulations on having put a stop to the pernicious nuisance of "quack advertisements" are unhappily premature. The reptile was scotch'd in the metropolitan press, but has wriggled into the columns of the provincial journals, and is still doing serious mischief. To grasp the magnitude of this evil, it is necessary to realise the full extent of that impressibility which makes the multitude always an easy prey to cunning advertisers. It is strange but true that the majority of newspaper readers receive with a large measure of credulity everything they see in print. The importance of preventing the publication of malevolent falsehoods is therefore self-evident. The advertising quacks, against whose machinations we have striven to protect the public, misrepresent themselves, the maladies they profess to cure, and the nostrums they vaunt as "specifics." If this were a simple case of fraud, we might content ourselves with exposing the imposture, and leave the dupes to their fate; but the direct and collateral effects of such pestilent advertising are so demoralising that something more than mere protest is demanded. It is impossible to regard with composure the wrong-doing of those proprietors and managers of newspapers who for a paltry sum prostitute their journals in the service of specific-medicine-mongers. It is inconceivable that respectable men can understand the traffic in which they are engaged. We could supply them with startling proofs of the mischief wrought, the weak-minded who have been misled to the blighting of their prospects, the ruin of their health, and the embittering of their lives. Such knowledge of facts as falls to the lot of medical practitioners would pain the heart of the most obdurate money-grubber, and could scarcely fail to induce him to refuse the advertisements to which we allude, and which are, in truth, ingeniously-devised snares for the unwary, and lures for the unwise. If we only enjoyed the advantage of a public prosecutor's services in this country, many of the specious advertisers who now set their toils with impunity would be caught in their own traps. The circumstance that the machinery of the law is not put in motion against these enemies of health and happiness does not, however, excuse the thoughtless or selfish upholders of an iniquitous system which, but for their assistance, could not thrive.

PUNISHMENT DRILL.

LAST week we published a letter from Dr. Dyce Duckworth, protesting against the introduction of a system of punishment drill into public schools, and stating that he should regard such an innovation as a very disastrous one. That the drill-master should ever be a terror to English boys is, he considers, a grievous matter, and holds the suggestion to be as unwholesome as it is unpatriotic. Dr. Duckworth insists that drilling ought to be made a regular part of every boy's training. In this latter recommendation we are quite with Dr. Duckworth, but we think he has failed to understand the scope and nature of the punishment drill proposed. In our first article on the subject we defined punishment drill to be, not "the seductive form of playing at Volunteers, but good steady extension drill." In this drill the boys stand more or less apart, and execute certain monotonous movements with the arms, such as touching the toes, bringing the arms behind the back, extending them forwards, &c.; when tired the boys may stand at ease or mark time; no marching or execution of combined movements. This is very different from what is known as company drill, in which most boys take a real delight. This is borne out by the statement of "Head Master" in his letter in THE LANCET of May 20th, that "he has often been half amused, half chagrined, by unwitting spectators remarking that the boys seemed thoroughly to enjoy their drill." We do not believe that the employment of the monotonous extension exercises as punishment drill would make the higher form of drill distasteful to boys. The soldier hates and detests punishment drill, but it does not make his regular drill a "terror" to him. Boys dislike copying out, or learning by heart, impositions set from the works of classical authors, but we have not heard that the system of impositions has bred much horror to classical learning amongst the English youth. Fagging at cricket is complained of and avoided if possible by many boys, but it does not breed a dislike to the game when their turn comes to enjoy its higher pleasures

of batting and bowling. The advantages to be gained from the employment of the kind of drill we have indicated as a substitute for corporal punishment and impositions are far greater than any of the drawbacks that either "Head Master" or Dr. Dyce Duckworth has been able to bring against it. We believe the idea that punishment drill, in the form proposed, would make boys regard drill of all kinds with terror, to be altogether imaginary.

THE DISPENSING OF POISONOUS DRUGS.

MR. GAMGEE, in a letter to the *Birmingham Daily Post*, has recently drawn attention to a matter of very grave public importance. It is well known that, under the Pharmacy Act, pharmaceutical chemists only are permitted to sell certain poisons, and that they must use proper precautions in doing so. The responsibility is, however, removed if the dispenser has reason to believe that he is making up the prescription of a legally qualified practitioner. But the prescription appropriate to one patient, for one purpose, and at one time, will often be deadly under other conditions, and at present there is no guarantee that those conditions will be observed. Physicians' prescriptions are often carefully preserved and are used for other patients than those for whom they were intended, and for totally different purposes. They are often copied, the copies being apparently accepted as freely as the original; and in some cases they are even used, certainly they might easily be used, for years after the death of the prescriber. If we add the risk of forgery, and that arising from the practice, too commonly followed by medical men, of signing prescriptions with initials only, the dangers of the present system will be seen to be manifold.

We will not, at the present time, attempt to point out remedies for the very serious dangers we have described. Mr. Gamgee suggests that copies of a prescription containing a poisonous ingredient should never be accepted by a chemist unless countersigned by a qualified medical practitioner, and that after a certain time, to be hereafter determined, no such prescription should be dispensed at all unless recently countersigned. These suggestions are sensible and simple, but we are inclined to think that they might with propriety be enlarged. We invite the careful consideration of the medical profession to the subject.

A "VETERINARY UNIVERSITY."

THE Royal College of Veterinary Surgeons, not contented with the high-sounding title which it at present bears, is anxious to be known as the "Royal Veterinary University," and has, in a recent application for a supplementary charter, adopted that name. We trust, for their own sakes, that the council of the college will perceive in time that such a change of title would cover them with ridicule. A university is an establishment authorised by the State for the diffusion of *universality* of knowledge, and for the bestowal of corresponding degrees. The University of Paris, so long and so justly celebrated, was founded some six or seven hundred years ago by the union into "faculties" of all the great schools of the time. Theology, law, medicine, and the so-called liberal arts, including music, grammar, logic, rhetoric, geometry, arithmetic, and astronomy, were all represented, and have been represented, with slight variations, in every university from that time to the present. To apply the term to any single college, simply because it confers a diploma, would be a complete misuse of the word, but to apply it to a college devoted to a study certainly not the most important in the scale of knowledge would be simply absurd. A "surgical university," a "medical university," and a "legal university" would be bad enough, but a "veterinary university" would surely be far worse than either.

Let us hope that the Royal College of Veterinary Surgeons, which has done such good work, and earned for itself and its members such general respect, will not even attempt so egregious a blunder.

THE REJECTIONS AT EXAMINATIONS AND THE COUNCIL.

WE are delighted to note that, on the motion of Dr. Andrew Wood, seconded by Mr. Quain, the Council has referred to a committee the tables giving results of professional examinations for degrees, diplomas, and licences granted in 1875, with special instructions to the committee to consider and report on the large number of rejections. We have lately and for a long time endeavoured to get the Council to consider this subject as *par excellence* the subject worthy of all its great powers. The committee is a very good one, consisting of Dr. Humphry (chairman), Dr. Pitman, Dr. Storrar, Dr. Andrew Wood, Dr. A. Smith, and Sir William Gull. This is the kind of subject in regard to which we feel the loss of Dr. Parkes. We must say that no better chairman for such a committee could have been found in the Council than Dr. Humphry, whose interest in good and thorough medical education is of the purest and strongest kind.

THE COEXISTENCE OF TÆNIA AND CYSTICERCI.

A CASE in which tænia solium and cysticerci coexisted in the same subject was shown lately by M. Broca. The patient had passed numerous segments of the worm, and many tumours existed in the subcutaneous cellular tissue and in the muscles, which were proved by puncture to be cysticercal. Severe cerebral symptoms pointed to the probable existence of a cysticercus in the brain. The tumours appeared very soon after the patient first observed segments of tapeworm in his stools. There was nothing of etiological significance in his circumstances or occupation. M. Broca believes the case to be the first in which the tænia and its cysticercus have coexisted in the same subject. In this he is certainly in error. The association, though rare, has been before noticed, and is probably due to dirty habits, the patient's fingers having been soiled with fæces containing ova, and not washed before a meal; or else to some of the ova having passed directly into the stomach, in consequence of violent vomiting, the tænia being situated high up in the small intestine.

MEDICAL RELIEF AS A LEGAL QUESTION.

IT is undoubtedly true that the present state of the law empowers a relieving officer to withhold nourishment ordered by the medical officer of the union. And every now and again we have to comment on cases where death seems to be a consequence of such discretion, or want of discretion, on the part of the relieving officer. It seems a frightful power to give a relieving officer. But while he has it we must blame the law rather than the officer. The case of Charlotte Hammond revives this question. As the guardians court investigation by the Local Government Board, and give a different version of the facts from that given by the medical officer, we suspend judgment in regard to this particular case. But the sooner medical orders in illness are made absolute the better. Strength fails very quickly in the conditions of poverty, and while the relieving officer and the guardians are thinking about the pauper's need he often dies. It cannot be too much insisted on that there is now scarcely such a thing as an able-bodied pauper. Pauperism means chronic want of strength and health,

intensified sometimes by recent and severe illness, and many of the arrangements for relieving paupers are so inconvenient to them as occasionally to determine their death, such as long distances, delays, &c. *Bis dat qui cito dat* is a principle not recognised in the Poor-law system.

THE ENSUING ELECTION AT THE ROYAL COLLEGE OF SURGEONS.

A REQUISITION signed by nearly 150 provincial Fellows of the Royal College of Surgeons has just been laid before Mr. C. G. Wheelhouse, desiring him to permit himself to be nominated at the coming election in July for the vacancy occasioned in the Council of the College by the death of Mr. Southam, of Manchester. Few candidates, we imagine, can adduce a stronger moral claim than this: "As the senior surgeon to the Leeds General Infirmary, an institution which has largely contributed to the advancement of surgery, and for many years a lecturer on surgery at the Leeds School of Medicine, we are of opinion that you are exceedingly well qualified to occupy a seat in the Council." Such are the words of the requisition, and with them we entirely agree. Mr. Wheelhouse has, of course, complied with this request.

PROFESSOR DONDERS.

ON Tuesday evening last, at the Royal London Ophthalmic Hospital, Professor Donders, the eminent ophthalmologist, of Utrecht, delivered an able and interesting lecture to a large audience of ophthalmic surgeons on the use of the metrical scale in numbering spectacles, and on Dr. Snellen's phakometer. It will be remembered that at the last Ophthalmological Congress several practitioners undertook to adopt the metrical scale in estimating and correcting anomalies of refraction. That promise, for many reasons, has not been kept as faithfully as it might have been by many in this country. It was felt, therefore, that Professor Donders' visit to England was a favourable opportunity of bringing the subject more prominently before the notice of British ophthalmic surgeons. The lecturer urged that if the metrical system were adopted there would be a uniform nomenclature throughout the world, that unity would be definitely determined, and that the operation of correcting ametropia by means of single or combined lenses would be greatly facilitated. The only matter was to fix unity; while some wished it to be two hundred and forty centimetres, and some three hundred, he preferred four hundred.

THE REGISTRAR OF THE MEDICAL COUNCIL.

THE feeling remarks of the President of the Medical Council in regard to the resignation of Dr. Hawkins were very natural. Dr. Hawkins has been Registrar of the Council since its creation eighteen years ago come November, and has worked harmoniously in that time both with members of the Council and with his subordinates. The duties of the Registrar in this period have not always been perfectly smooth. Those who expected more of the Medical Act than it is found to accomplish have naturally been apt to blame the Registrar, as the most accessible impersonation of the Council; but Dr. Hawkins's courtesy has been unvarying.

VACCINATION IN THE ISLE OF MAN.

A VACCINATION ACT for the Isle of Man has been passed by the House of Keys. The discussion on the Bill was intelligent and creditable. But the compulsory clauses, on a division, were struck out. The Act makes provision for the gratuitous vaccination of children whose parents are willing to have them vaccinated. A striking illustration of the neglect of vaccination in a community not educated by a law requiring it to be done is afforded by the case of the Isle of Man. A letter from a medical practitioner in the Isle of Man was read in the course of the discussion, by Mr. Dumbell, who argued for compulsion, saying that in 1871, at the request of the Governor, he vaccinated 1250 persons. Since then he has attended at the birth of 734 children, of whom only 26 have been protected by vaccination! This, not from objection to the operation, but from the absence of small-pox and of the fear which its presence causes. What a fine field it will have when it comes again.

TELEGRAPH-WIRE FOR SPLINTS.

SURGEON-MAJOR PORTER, Assistant Professor of Military Surgery, Netley, has forwarded us one of his splints extemporised from telegraph-wire. That this material may be usefully adapted to such a purpose, and that it would serve very well as a temporary measure, we have no doubt. The specimen forwarded us is for the upper arm, and it is accompanied by a pad from a piece of soldier's serge tunic. It is not difficult to divide telegraph-wire of galvanised iron, and on the suggestion of Dr. Porter, Messrs. Weiss and Son have turned the outer edge of a pair of ordinary straight scissors into a file for the purpose of notching the wire, so that it may be broken at the required point. Altogether, Dr. Porter's invention appears to be an ingenious and useful one; and it occurs to us that it would not be impossible to devise some method or other by which one could make almost any form and size of splint for field surgery purposes out of tubular galvanised iron of sufficient thickness and strength to answer all practical purposes. The plan would be to devise patterns for the upper and lower extremities, accompanied by such directions that a surgeon could either make splints himself or instruct any armourer-sergeant or farrier-sergeant in doing so, out of tubular galvanised iron supplied for the purpose.

EXTENSION OF THE CHILDREN'S HOSPITAL BIRMINGHAM.

THE Countess of Bradford, in the presence of a large number of the citizens of Birmingham, laid, on Tuesday last, the first stone of the new buildings of the In-patient Department extension. These buildings will consist of isolated and detached wards for fever cases, diphtheria and other contagious diseases, dormitories for the nurses, &c., and will cost about £9000. £6000 has already been collected, and about £200 in addition was handed in to the President of the Hospital, the Earl of Bradford, at the luncheon which subsequently took place at the Great Western Hotel. There should be no difficulty in so large a community raising the balance necessary for completing the good work, and we trust that long before the new buildings are completed the necessary funds will have been supplied to the treasurer.

NEW CAUTERY.

A NEW cautery seems to attract much attention in Paris. It is the invention of Dr. Paquelin. The accounts of it which have appeared do not give the details of its construction, but it appears to resemble in some particulars the gas cautery employed some years ago in London by the late Mr. A. Bruce. The principle of its construction is, that platinum, or a similar metal, heated to a certain point, becomes instantly incandescent in contact with a gaseous mixture of air and certain hydrocarbon vapours; and that this incandescence is maintained as long as the platinum

and the gas are in contact. With 200 grammes of liquid five hours' work can be done. Any temperature can be maintained steadily, from a dull-red to a brilliant-white heat, and can be instantly varied. Organic liquids, even cold water, do not, it is said, interfere with its activity.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

THE President of the Local Government Board has announced that he will receive a deputation from the Council of the Poor-Law Medical Officers' Association on Monday, June 12th, at 3 P.M. Members of the Association and of the Poor-Law Medical Service are requested to communicate with such M.P.s as they may happen to know and urge them to attend and support the objects of the Council.

The Council also earnestly urge that the particulars of any case where superannuation has been refused to an aged medical officer should be forwarded without delay, either to Dr. Rogers, 33, Dean-street, Soho, or to John Wickham Barnes, Esq., 126, Gower-street, Bedford-square.

SIR WILLIAM FERGUSSON.

SIR WILLIAM FERGUSSON during the last week has had good nights, and although, with a diminution of the renal secretion, there has been rather an increase of the dropsical swelling, we are happy to learn that he has been comparatively free from distressing symptoms. He occasionally leaves his bed and sits up for a while, but he is unable to leave his room. Sir George Burrows and Dr. George Johnson are in daily attendance. The widespread interest and great sympathy excited by the report of the very eminent and popular surgeon's illness are evinced by the numerous inquiries which are being made by all ranks and classes.

THE Manchester and Salford Sanitary Association have petitioned the House of Commons on the subject of the registration of diseases. The memorialists urge that medical officers of health should obtain systematic returns of all cases of disease coming under treatment at the public institutions. Such a registration of sickness would give timely warning of the rise and progress of an epidemic, so that preventive measures might be applied at an early stage, when alone they are likely to be effective; they would afford a test of the fitness of the various institutions for the reception of the sick, and would also constitute a valuable series of medical statistics from which conclusions might be drawn respecting the causes of disease, the laws of epidemics, the relation of disease to atmospheric changes and to seasons of plenty and scarcity, and many other questions of medical science.

DR. ROLLESTON'S eulogium of the medical service of the United States army, before the General Medical Council last week, during the short discussion that ensued on the new Warrant for the British Medical Service, is not borne out by what we read in our American contemporaries. Dr. Rolleston expressed his conviction that medical men were not "properly treated in any service except that of the United States, which had set an example in that respect to the whole civilised world." The *New York Medical Record* for May 13th, now before us, in a leading article comparing the English with the American service, says of its own:—"For the past few years, every effort has been made to secure the passage of a law which should place the medical staff even on a decent footing with the other staff corps, but in vain; and even now, when so little is asked for, when the original demands for ordinary justice have dwindled into the insignificant petition for a slight increase in the number of officers who shall be privileged to hold the medium grades, Congress still hesitates to act. In regard to the whole matter, it must be acknowledged that not only the medical staff, but the profession generally, have placed themselves in the humiliating position of supplication. It is, however, beginning to wake up to the true state of the case, here as in England; and, while it may appear powerless to remedy existing evils, it may use the means of prevention for the future. In other words, if the Government chooses to ignore the usual privileges to medical men, and refuses to grant reasonable requests, no competent and well-educated man will care to voluntarily place his neck into the yoke."

THE outbreak of scarlet fever among the boys on board the training-ship *St. Vincent*, now at Portsmouth, particulars of which have been given in the daily papers, has happily, by the immediate adoption of preventive measures, been checked. The naval authorities of the port deserve infinite credit for their prompt action with regard to the epidemic. The origin of the disease appears to be involved in some obscurity, but we have little doubt that the medical officers engaged in the investigation of the occurrence will be able to demonstrate how it was introduced on board a ship acknowledged to be pre-eminently clean and healthy. The boys, who have been distributed among different ships, are now under the closest medical supervision.

THE recent returns issued by the Managers of the Metropolitan Asylum District Board show a marked increase in the number of small-pox cases in London. During the greater part of January both the small-pox hospitals belonging to this Board were empty, whereas the number of small-pox patients under treatment at the Stockwell Hospital has since steadily increased, and was forty-two on May 27th. During the week ending on that day, nineteen new cases were admitted to the hospital (thirteen of which were vaccinated and six unvaccinated); three died, and ten were discharged recovered; the number remaining under treatment at the end of the week exceeded that at the beginning of the week by six.

SOUTH LONDON continues to show a far larger proportion of uncertified causes of death than any other portion of the metropolis. The Registrar-General, in his last Weekly Return, states that the causes of all the 587 deaths registered in the north and east groups of registration districts, during the week ending 27th May, were certified either by medical practitioners or by coroners, whereas the proportion of uncertified deaths was equal to one per cent. in the west, two per cent. in the central, and three per cent. in the south groups of districts. The average proportion of uncertified deaths in the metropolis during the week was 1·3 per cent., and bears very favourable comparison with the proportion in any of the other large English towns.

AT the last fortnightly meeting of the Hexham Sanitary Authority it was resolved to make a systematic and complete inspection of the whole of the private drainage of that town. The example thus set by the Hexham authority might be followed with advantage by the sanitary authorities in other and larger towns.

THE Private Amateur Dramatic Performance at Gayes Court, Deptford, under the patronage of the Duke of Connaught, the dramas for which were original and specially written and acted for the benefit of the Free Medical Scholars' Fund, of which Dr. Carr is the acting treasurer, proved a great success, the profits exceeding £120.

THE mortality in London last week was at the rate of 22 per thousand annually. The deaths, 1446 in number, included 3 from small-pox, 40 from measles, 36 from scarlet fever, 10 from diphtheria, 59 from whooping-cough, 25 from different forms of fever, 14 from diarrhœa, and 269 from diseases of the respiratory organs. The principal continental cities appear by the latest returns to be fairly healthy. The death-rate of Berlin, now 24 per thousand, shows a remarkable contrast to the mortality recorded week after week about twelve months ago. Buda Pesth, however, shows but little improvement, its death-rate still being 45 per thousand.

AMONG the many outbreaks of small-pox which have been directly traced to Manchester and Salford as the centre of infection, the village of Bulkington, which is situated in the registration district of Nuneaton, about six miles from Coventry, is noticeable. Six deaths had occurred in this village previously to the 24th May, and the number of cases was then increasing rapidly. Since that date, however, the medical officer of health has reported that the epidemic is abating. It is worthy of note that the district of Nuneaton suffered severely from small-pox during the epidemic of 1871-2, which suggests the desirability of an inquiry as to the efficiency of vaccination within that union.

MR. SANDFORD MOORE read a very interesting paper on "Assistance to the Wounded in the time of War," at a recent meeting of the Royal United Service Institution. Mr. Moore, from his experience in the Franco-Prussian War of 1870-71, and from the knowledge he has acquired of the subject as an instructor at Netley, was well qualified to speak on such a subject, and his observations seem to us to have been of a practical shape. Colonel Loyd Lindsay presided.

WE are informed that negotiations which have been going on for some time with a view to the amalgamation of the medical schools of University College and the Middlesex Hospital have come to an end, owing to insuperable difficulties having arisen with regard to the carrying out of the proposed scheme.

A MEETING of the Medical Academy of Rome has been held for the purpose of taking steps to disprove the charges of insalubrity which are frequently made against the city. We dealt with the health of Rome at some length last week.

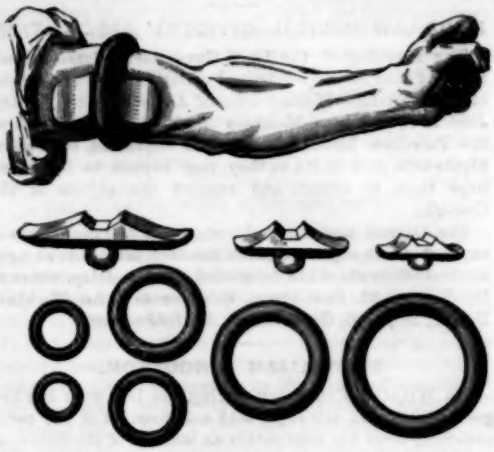
AT the meeting of the House Committee of the London Hospital, held on Tuesday last, Dr. F. C. Turner was nominated to the vacant office of assistant-physician.

THE will of Dr. Henry Letheby, who died on the 28th of March, has been proved under £25,000.

New Invention.

AN IMPROVED APPLIANCE FOR BLOODLESS OPERATIONS.

MANY surgeons who practise bloodless operations must have noticed the inconvenience of Esmarch's bandage in these points—viz., there is some trouble in adjusting it at the commencement of rolling, more in fixing it when the limb is rolled, and a tourniquet or extra band is necessary to control the main artery. Mr. H. L. Browne, surgeon to the West Bromwich Hospital, proposes the following appliance to remedy these defects. It consists of wooden plugs and elastic india-rubber rings of different sizes and thickness. A suitable ring is chosen, rolled along the limb and over a plug placed on the main artery. The blood is thereby entirely compressed out of the limb, and is kept out as long as is wished. Round the wrist, ankle, fingers, and toes, the pressure of the ring alone is sufficient. It may be



used as an ordinary tourniquet by *stretching* instead of rolling the ring over the limb and plug. The rings are made of six sizes and the plugs of three, and may be procured in sets from Messrs. Salt and Son, of Birmingham. The plug as represented in the diagram is much too large, as the smallest of the three sizes is generally sufficient, for the brachial, whilst the largest provides for any ordinary amount of obesity.

Correspondence.

"Audi alteram partem."

PAY OF ARMY MEDICAL OFFICERS IN INDIA.

To the Editor of THE LANCET.

SIR,—When recently bringing forward the Army Estimates in the House of Commons, Mr. Hardy, with reference to proposed increase of pay to the medical department, is supposed to have dealt in a very liberal manner, and such it will be if it be found that his expressed ideas are carried out in their integrity.

We in the department here, however, are anxiously awaiting the result of the new Warrant, our anxiety being increased by a strong feeling of distrust, the natural consequence of past dealings of Government towards the department with respect to previous Royal Warrants.

In April, 1867, a Royal Warrant was issued which professed to give an increase of 2*s.* 6*d.* a day to assistant-surgeons after each five years' service, and this was continued to surgeons in Mr. Cardwell's Warrant of March, 1873; but up to the present time these Royal Warrants have not been acted on in India, and no relative increase of pay has been given us after these periods, our pay remaining unchanged since 1864, notwithstanding, on the one hand, it should have increased in proportion to the increase in English pay, and on the other, the great depreciation in value of the coin in which we here are paid, its purchasing power being reduced about 17 per cent. It would be well, therefore, for those who have taken so active a part in bringing the defects of the department strongly before students and intending candidates, and to whom we in the service are so much indebted, that they should be able to give all information to candidates as to whom they are going to serve and to whom they are to look for payment.

No one imagines that the English Government will fail to give to every man his pay, but it should be known to in-

tending candidates that out of their ten years of service they must make up their minds to serve at least eight abroad, most probably in India. And it would be most advisable for such to learn from whence they are to be paid, and who will be responsible for their payment. If every man is to get his £250 a year, with his allowance for house-rent and servants only, he will find himself miserably destitute in this country; whereas, on the other hand, if he is to receive the equivalent of his English pay, together with the Indian allowances of his rank, he will have nothing to complain of in this respect. But with the precedent of the past nine years before us, it should be necessary before another man enters into the department that the rate of pay at home and abroad should be published, whether it be in £ *s. d.*, or rupees, or dollars, and that deductions, in the shape of subscriptions to regimental band funds, should be abolished.

In former years, junior medical officers looked for and obtained additional pay for extra work and responsibility, but as far as our department is concerned all this is changed. The minimum pay is all we can look to, existing regulations being so cunningly worded that it is scarcely possible to become entitled to any additional pay, although one unacquainted with their cunningness would imagine the regulations most liberal.

The rate of exchange and the calculations used in converting English pay into the currency of this country are other subjects of grave importance to the medical officer, but would require too much space for this communication.

Your obedient servant,

India, April 6, 1876. HOPE.

THE PROFESSION OF DENTAL SURGERY.

To the Editor of THE LANCET.

SIR,—We, the undersigned qualified surgeons engaged in the practice of dental surgery, beg to emphatically protest against the inference conveyed by your editorial article, entitled, "Dental Anæsthetics and Dental Surgeons," in your issue of May 27th. In making the statement that "the one true remedy for the existing state of matters in respect to dentistry is supplied by the Association of Dental Surgeons practising Dental Surgery;" and further, that "the public will consider their own interests in confiding their cases to such hands, and by so doing secure safety," &c., the inference is conveyed that this new Association is a representative body, including within its ranks the larger and more influential section of fully-qualified surgeons who are engaged in the practice of this specialty. Leaving out of present consideration the injustice done to the holders of the dental licentiateship, and the many other important questions raised in the article, we beg to entirely disclaim the Association, to the formation of which we are opposed, and to emphatically deny its claims to in any way represent the body which it professes to represent—namely, the fully-qualified surgeons engaged in the practice of dental surgery.

As it is believed that the number of fully qualified surgeons practising dentistry in the United Kingdom does not greatly exceed fifty, the following twenty-five signatures, of London practitioners only, have been deemed sufficient. More might have been obtained, but at the cost of delaying the insertion of this disclaimer, which did not appear advisable.

Thomas A. Rogers, M.R.C.S., L.D.S.; Edwin Saunders, F.R.C.S.; John Tomes, F.R.S., M.R.C.S., L.D.S.; Charles Vasey, L.F.P.S., L.D.S.; Henry John Barrett, M.R.C.S., L.D.S.; Charles S. Tomes, M.A. Oxon., M.R.C.S., L.D.S.; James Smith Turner, M.R.C.S., L.D.S.; Henry Sewell, M.R.C.S., L.D.S.; Ashley Gibbings, M.R.C.S., L.D.S.; Charles James Fox, M.R.C.S., L.D.S.; Frederick Canton, M.R.C.S., L.R.C.P. Lond., L.S.A., L.D.S.; Robert Hall Woodhouse, M.R.C.S., L.D.S.; Joseph Rogers, M.R.C.S., L.D.S.; G. A. Ibbetson, F.R.C.S., L.D.S.; Samuel J. Hutchinson, M.R.C.S., L.D.S.; Joseph Walker, M.D., M.R.C.S., L.D.S.; A. G. Medwin, M.D., L.R.C.P. Lond., M.R.C.S., L.D.S., L.S.A.; Ashley Barrett, M.B. Lond., M.R.C.S., L.D.S.; Henry Moon, M.R.C.S., L.D.S.; John W. Elliott, M.R.C.S., L.D.S.; William Gill Ranger, M.R.C.S.; E. Holborow King, M.R.C.S., L.D.S.; Edward B. Randell, M.R.C.S., L.D.S.; Thomas F. Ken Underwood, M.R.C.S., L.D.S.; John Howard Mummery, M.R.C.S., L.D.S.

London, May 30th, 1876.

*** Our correspondents will of course acquit us of having the remotest intention of reflecting on any qualified surgeons practising the specialty of dentistry. Our remarks to which exception is taken were directed with special application to men without any qualification. We have consistently supported the Association, because we believe that its members are actuated solely by an honest desire to elevate the status of the specialty, and that it reflects the aspirations of a large number of highly qualified dental surgeons. With no desire to create a division in the ranks of an important profession, we still maintain that the promoters had a perfect right to establish such a Society as the one now the subject of controversy, and that ample justification for its formation is found in the laxity of the rules regulating admission into the Odontological Society, which cannot by its constitution be held to faithfully represent what is most advanced and most creditable in the specialty.—ED. L.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on May 25th:—

Clarke, Richard, Henton, Somerset.
Harvey, Joseph Jarrow, Birmingham.
Pratt, Alfred, Overton, Hampshire.
Richards, Philip Morgan, Fennard, Ruabon.

The following gentlemen passed the Primary Professional Examination on the same day:—

Hine, Alfred Leonard, Middlesex Hospital.
Prosser, Thos. Gilbert, St. Bartholomew's Hospital.

DR. GEORGE STOCKWELL has been placed on the Commission of the Peace for Batley, Yorkshire.

THE will of Sir John William Fisher, F.R.C.S.Eng., the late Surgeon-in-Chief to the Metropolitan Police and old Bow-street Patrol, who died at Grosvenor-gate, Park-lane, on the 22nd of March, has been proved under £50,000.

A MEETING has been held in Dublin, at which Mr. Wm. Booth Pearsall, F.R.C.S.Irel., occupied the chair, and a resolution was passed to establish a Dental Hospital. The profession have offered their services so freely that the attendance of at least one eminent dentist will be secured every day.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—It is stated that thirty candidates were admitted to the final *viva voce* examination for the Fellowship of the Royal College of Surgeons on Monday and Tuesday last, of which number seventeen were successful. The list of the names will be published next week.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—On the 5th June the annual election of president, vice-president, secretary, and council will take place. Dr. Kidd, Dr. McDonnell, and Dr. Colles will be returned without opposition as president, vice-president, and secretary respectively; whilst, as regards the council, all the outgoing members are candidates, and, in addition, Dr. Corley, of the Carmichael School of Medicine, has intimated his intention of competing.

THE FOOD AND DRUGS ACT.—The "Times" reports that an important judgment under the Food and Drugs Act was given a few days ago by the Birmingham Stipendiary. Mr. Richard Hughes, a druggist and drysalter, was summoned at the instance of the sanitary authority for having sold two ounces of milk of sulphur, which on analysis by Dr. Hill, the borough analyst, was found to contain only 33 per cent. of sulphur and 67 per cent. of sulphate of lime. For the prosecution it was urged that the sulphate of lime

is injurious to health, and that, whether injurious or not, its presence in the milk of sulphur is an adulteration and a legal fraud upon the purchaser. For the defence it was contended that milk of sulphur was generally understood in the trade to mean sulphur prepared according to an old formula with sulphuric acid, which produced the sulphate of lime, and that it was preferred to pure sulphur precipitate because the latter will not mix well with water. The stipendiary, Mr. Kynnersley, in giving judgment, said the evidence failed to satisfy him of the alleged distinction between milk of sulphur and precipitate of sulphur, inasmuch as out of the thirteen samples of milk of sulphur purchased on the same day, only three were adulterated with lime. If people preferred the impure article on account of its convenience for mixing they might have it, but under its true name of a mixture of sulphur and sulphate of lime; when they asked for milk of sulphur it ought to be supplied pure. As the object of the prosecution was not to punish the offender, but to vindicate the law, only a nominal fine of 1s. would be imposed. On the application of the defendant, a case for a higher court was granted.

PRESENTATIONS.—On Saturday last, May 27th, preparatory to the annual inspection of the 38th Middlesex (Artists') Rifle Volunteers, Mr. R. A. Jackson, M.R.C.S., of Notting-hill-square, on his appointment as assistant-surgeon to the corps, had the honour of being presented by Capt. Busk in a most complimentary speech, in the name of his company, with a very elegant and beautifully-embossed sword, also a cocked hat, in recognition of his past services as sergeant and sergeant-instructor of musketry.—Mr. Frank H. Hodges, who has been filling the post of house-surgeon to the Leicester Infirmary for the past two years and a half, and who has just resigned, has been presented with a handsome electro tea and coffee service by the officers, nurses, and servants of the institution; also an electro butter dish by the resident dresser and clerk; and salad spoon and fork by a grateful patient; and a very elegant ormolu inkstand and pen-tray, and a Russian leather blotting-case by the lady nurses. The inkstand bears the following inscription: "Presented to F. H. Hodges, Esq., on his resignation as house-surgeon of the Leicester Infirmary, by the sisters and lady pupils, with their best wishes for his future happiness. May 31st, 1876."—Mr. Cartwright, surgeon, of Wootton Bassett, has been presented by his friends and patients, after an interesting ceremony, with a purse of 100 sovereigns.

Medical Appointments.

ABBOT, T. O. F., M.B., C.M., M.R.C.S.E., has been appointed a House-Surgeon to the Royal Infirmary, Edinburgh.

BAKER, J., L.R.C.S.Ed., has been appointed a House-Surgeon to the Royal Infirmary, Edinburgh.

BALDWIN, E. St. George, M.B., C.M., has been appointed a House-Physician to the Royal Infirmary, Edinburgh.

BROWN, J. W., M.B., C.M., has been appointed a House-Physician to the Royal Infirmary, Edinburgh.

BROWNE, D. J., L.R.C.S.I., L.K.Q.C.P.I., and L.M., has been appointed Consulting Sanitary Officer to the Londonderry Rural Sanitary Authority, vice Cuthbert, deceased.

BULL, W., F.R.C.S.Ed., has been appointed to the No. 2 District, Havant Union, vice Reed, resigned.

CORNISH, P. A., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for No. 9 District of the Totnes Union.

COTTERELL, J. M., M.B., C.M., has been appointed a House-Physician to the Royal Infirmary, Edinburgh.

COYNE, J., L.R.C.P.Ed., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Crossmaglen Dispensary District of the Castleblayney Union, co. Monaghan, vice Donaldson, deceased.

FITZGERALD, C. E., M.D., has been appointed Surgeon-Oculist to Her Majesty in Ireland, vice Wilde, deceased.

FORSAYETH, J. C. C., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer for No. 4 District of the Saffron Walden Union, vice Maddan, resigned.

GARSON, J. G., M.B., L.R.C.S.Ed., has been appointed a House-Surgeon to the Royal Infirmary, Edinburgh.

HALLETT, H. A., M.D., L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to No. 5 District of the St. Neots Union, Huntingdonshire, vice Norton, resigned.

HETHERINGTON, C. E., M.B., T.C.D., has been appointed Resident Medical Superintendent of the Londonderry District Lunatic Asylum, vice Ashe, appointed Physician Superintendent of the Central Criminal Lunatic Asylum, Dundrum.

JOHNSON, H. S., L.K.Q.C.P.I., has been appointed Medical Officer for No. 10 District of the Totnes Union.

JOLLY, S. A., L.R.C.P.Ed., L.F.P.S.G., L.S.A.L., has been appointed Resident Assistant Medical Officer to the Birmingham Workhouse, vice Fitzsimon, resigned.

LAWSON, S., L.F.P.S.G. & L.M., has been appointed Medical Officer and Public Vaccinator for the Marsden District of the Burnley Union, vice Fleming, resigned.

MEYRICK, E. W. W., L.F.P.S.G., M.R.C.S.E., has been appointed Out-door Assistant to the Medical Aid Association of Friendly Societies, Bradford, Yorkshire.

O'CONNOR, J., M.D., C.M., has been appointed Medical Officer to the Portsea Island Union Workhouse, vice Williams, resigned.

RIGBY, W. B., has been appointed Assistant to the House-Surgeon of the Wolverhampton and Staffordshire General Hospital.

SERVICE, J., M.B., C.M., has been appointed Assistant Medical Officer to the City of Glasgow Fever Hospital at Belvidere, vice Barbour, resigned.

SHOOLBRED, W. A., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Wolverhampton and Staffordshire General Hospital, vice Taylor, resigned.

SMITH, J., M.B., C.M., has been appointed by the Church of Scotland Missionary Society Medical Missionary to Nyanza, Central Africa.

STONE, H. S., M.B., C.M., has been appointed a House-Surgeon to the Royal Infirmary, Edinburgh.

THOMAS, F. J., M.R.C.S.E., M. & L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Saham Toney District of the Swaffham Union, vice Ewart, resigned.

THOMAS, Ll. M., M.D., has been appointed Hon. Physician to the Royal Academy of Music, Hanover-square.

TIDY, C. M., M.B., C.M., M.R.C.S.E., L.S.A.L., has been appointed Lecturer on Chemistry at the London Hospital Medical School, vice Letheby, deceased.

TWINING, F. T., M.B., M.R.C.S.E., has been appointed Assistant Medical Officer at the Homerton Fever Hospital.

WOODBURN, W. H., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Officer to the Kirkby Ireleth Friendly Society, vice Chapman, resigned.

Births, Marriages, and Deaths.

BIRTHS.

ATKINSON.—On the 23rd ult., at Kingston-on-Thames, the wife of Frederick F. Atkinson, M.D., of a daughter.

BADCOCK.—On the 29th ult., at Gower-street, the wife of John Henry Badcock, M.R.C.S.E., of a daughter.

CREW.—On the 27th ult., at Higham-Ferrers, the wife of John Crew, L.R.C.P.L., of a son.

FLETCHER.—On the 23nd ult., at Ballinasloe, the wife of Robert V. Fletcher, L.R.C.P.Ed., of a daughter.

HALL.—On the 25th ult., at Surbiton, the wife of Edgar A. Hall, M.B., of a son.

RIDINGS.—On the 23rd ult., at Haslar, the wife of W. G. Ridings, M.R.C.S.E., Staff Surgeon R.N., of a daughter.

SAUNDERS.—On the 24th ult., at Elmstead Wood, Chislehurst, the wife of Wm. Sedgwick Saunders, M.D., of a son.

STOKOE.—On the 27th ult., at The Chestnuts, Beddington, the wife of Paul Henry Stokoe, M.D., of a daughter.

THOMAS.—On the 28th ult., at Shepperton, the wife of Edmund Frederick Thomas, M.R.C.S.E., of a daughter.

MARRIAGES.

BLIGH—HARRIS.—On the 24th ult., at St. Anne's, Rock Ferry, John Bligh, M.D., to Frances Mary, daughter of the late Frederick Harris, Esq.

MACCALL—MACKECHNIE.—On the 25th ult., at the Congregational Church, West Hartlepool, Dr. Maccall, of Crook, to Emlie Annie, daughter of Dr. MacKechnie.

DEATHS.

BIRDSALL.—On the 25th April, at Pickering, John Birdsall, Surgeon, aged 70.

EVANS.—On the 24th ult., at Bedwellty House, Cardiff, Ed. Hier Evans, M.R.C.S.E., aged 46.

HAMERTON.—On the 13th ult., at Elland, Yorkshire, James Hamerton, M.R.C.S.E., aged 82.

HANDSLEY.—On the 30th ult., at Alford, Lucy, the dearly-loved wife of T. A. Handsley, M.R.C.S.E. R. I. P.

HOGG.—On the 21st ult., at Dronfield, James Hogg, L.R.C.P.Ed., aged 35.

HOME.—On the 16th ult., at Royal Park, Clifton, William Lewis Home, M.D., aged 62.

HOPE.—On the 17th ult., at Nuffield Rectory, Henley-on-Thames, John Hope, Esq., late of the Bengal Medical Service, aged 69.

HUNTER.—On the 20th ult., at Weymouth, John Read Hunter, Surgeon, aged 43.

HURDON.—On the 16th ult., at Boscastle, Francis Hurdon, Surgeon, in practice prior to August, 1815, aged 84.

LUCY.—On the 19th ult., at Westbury, William Lucy, M.R.C.S.E., aged 51.

MARRIS.—On the 17th ult., Robert Pattmer Marris, M.R.C.S.E., of Kingsland, Herefordshire, aged 74.

MOFFAT.—On the 15th ult., at Blythswood, Glasgow, Thomas Dryden Moffat, L.R.C.P.Ed., aged 40.

O'HANLON.—On the 10th ult., at Rathkeale, David O'Hanlon, M.D., aged 52.

PARK.—On the 24th April, on board H.M.S. *Himalaya*, off Ceylon, homeward bound, George Park, M.D., Surgeon-Major 10th Regiment, aged 39.

PRESTON.—On the 15th ult., at Princess-street, Cavendish-square, William Preston, Surgeon, aged 44.

PURDON.—At Bulls, Province of Wellington, New Zealand, Henry Purdon, L.R.C.S.Ed., aged 52.

WARD.—On the 20th ult., at Kew-green, William Ward, Surgeon, formerly of Bury St. Edmunds, aged 60.

WATTS.—On the 19th ult., at Westbourne-park-terrace, Arthur John Watts, L.R.C.P.Ed., aged 40.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Surgeon-Major Gore: Medical History of our West African Campaigns.
Dr. Christie: On Cholera Epidemics.
Messrs. Cassal and Karcher: Anthology of Modern French Poetry.
Lithotomy, its Successes and its Dangers.
Dr. Parkes: Personal Care of Health.
French Classics: De Vigny's Chatterton.
Chirurgie Journalière des Hôpitaux de Paris.
Julius Bernstein: The Five Senses of Man.
Medical Societies' Proceedings.
L. Krahmer: Handbuch der Staats-Arzneikunde.
Voltaire's Alzire.
W. N. Hartley: Air and its Relations to Life.
J. R. Pretyman: Dispanporiation.
The Langham Magazine.
Mr. Chambers: A Mad World and its Inhabitants.
Dr. Roberts: Theory and Practice of Medicine.

Notes, Short Comments, and Answers to Correspondents.

PHASES OF INSANITY DURING THE FRANCO-GERMAN WAR.

DR. ANTONIO RITTI one of the acutest and clearest among recent writers on insanity, illustrates the disorder of the "affective faculties" by incidents drawn from the siege of Paris and its collateral events. By affective faculties he means the personal or egoistic instincts on the one hand, and the social or altruistic instincts on the other. Among lunatics the former prevail over the latter—the return of the latter being one of the signs of convalescence. The madman is essentially an egoistic, and therefore unsociable being. The healthy emotions that bind us to family, to friends, to fatherland—that, in the normal state, control moral life,—are in his case always impaired in proportion to the severity of his disease. Exclusive self-preoccupation destroys in him the patriotic sense. French alienists observed this in many curious and instructive instances during 1870-71. Dr. Foville, then physician at Charenton, records that the terrible drama enacting under their very eyes had scarcely any interest for them. "They were indifferent," he says, "and kept themselves quite unmoved by the events that passed before them." Dulled in their impressionability, and absorbed in the introspective contemplation of their morbid fancies, they shut themselves out from the external world. Some of them, seeing and understanding everything, interpreted it by the standard of their own diseased thought, decided that there was anything serious going on, and maintained that whatever was done was meant only for them, and only to deceive them. One called himself Prince Paulus Emilius, designed by the grace of God to ascend the throne of France, from which, however, he was kept back by the electric machinations (*malfaçon électrique*) of a secret society. He read the newspapers, and followed the march of events with apparent intelligence; but, when he had to interpret them, he vowed he was not such a fool as to take *au sérieux* the recitals he read, or the roar of artillery which thundered incessantly in his ears; that all the noise was made by some imbeciles pretending to fire cannons to amuse themselves, while their real aim was to annoy him—"*lui, Prince Paul Emile,*"—and to have a pretext for starving him to death by putting the victualling of the establishment on siege rations!

W. C. H.—We would advise our correspondent to communicate with the Local Government Board. The proceeding complained of is an undoubted grievance.

Dr. E. J. Tilt's paper shall be published at an early date.

Miss Mann.—We cannot recommend a particular surgeon.

POISONING BY ANTIMONY.

To the Editor of THE LANCET.

SIR,—A considerable amount of interest having gathered about the case of the late Mr. Brave, it has occurred to me that a similar one, but fortunately not attended with fatal consequences, which came under my own observation some years since, might be deemed worthy of some notice.

A warehouseman was suspected of helping himself to wine which was kept upon the premises, and in order to detect him an assistant in the establishment placed a wine-bottle filled with vin. ant. pot. tart. (P.L.), privately marked, in a convenient spot. The man returned from dinner, and went to the warehouse; but after an absence of about fifteen minutes, reported himself suffering from Asiatic cholera (he had vomiting, purging, and collapse), and went home. Upon search being made, it was found he had drunk the whole contents of the bottle, which would be equal to fifty grains. A physician (Dr. Prosser James) was at once communicated with, and took him under immediate treatment, and, to the relief of all concerned, he fully recovered after about a week's severe illness.

In this case the drug evidently imparted no disagreeable flavour to the wine, or it would not all have been swallowed; the effect of it was almost immediate, and the large dose combined with the prompt treatment appears to have been the man's salvation.

A question occurs to me as to whether in Mr. Brave's case the action of the salt may not have been retarded by the presence of opium in the stomach, of which medicine he is said to have taken a dose to relieve the toothache.

Yours respectfully,

Leyton, May 26th, 1876. A CHEMIST.

HEART DISEASE IN THE ARMY.

A good deal of discussion has taken place at different times in regard to the causes and prevalence of heart disease in the army; and although the subject has been much written about, it has been by no means exhausted. What is known as "irritable heart" was a common affection among the men of the United States army during their late war. The last published Medical Blue-book about our own soldiers contains a table, showing the relative prevalence of organic and functional diseases of the heart and of aneurism in the different arms of the service, and it is remarked that a striking difference is seen in the rate of prevalence of functional disease of the heart, which cannot be accounted for on the supposition that the same affection appears in one return as a functional, and in the other as an organic disease, as it will be found that whilst in infantry of the line the combined rate is 12·73, that of foot guards is only 3·09; if the proportions of invaliding be taken, it is found that for organic and functional diseases together, the rate of infantry is 3·68, and that of foot guards 2·34 per 1000 men; if the death-rates of both varieties of heart disease be compared, that of infantry is found to be 0·45, and that of foot-guards 0·54 per 1000 men. It is therefore evident that whilst diseases of the heart occur in very much greater frequency in the first-named arm, their severity does not exceed that of the same diseases in the foot guards. Assuming that the number of admissions returned by each arm represents the prevalence of diseases of the heart, the question arises, to what cause is the greater prevalence of diseases of the heart in infantry than in foot guards attributable? It cannot be the effect of severe drill or duty; in those respects the balance is probably not in favour of the troops stationed in London. It is suggested that inquiry into the subject may be narrowed by the knowledge that in some regiments of infantry functional diseases of the heart are as little prevalent as in the foot guards. Nearly one-fourth of all admissions for functional diseases of the heart in the infantry in 1874 are returned by two regiments, which together do not make up one-thirtieth of the strength—an excessive proportion, even allowing for the fact that readmissions of the same individuals may have contributed to it.

Mr. J. J. Lewis.—Apply at the Shipping Offices.

"NEW SYSTEMS" OF NURSING.

To the Editor of THE LANCET.

SIR,—Now that so much attention is being directed towards the introduction of "new systems" of nursing into our hospitals, perhaps you will do me the favour of inserting this letter in THE LANCET. After your exhaustive and able leader on Miss Nightingale's wise and economical scheme to establish an "out-door" system of nursing, nothing more on my part need be said on that subject.

The most prominent features in the "new systems," as carried out (or about to be carried out) in our hospitals, appear to be—great expenditure and a large staff. It is a common thing to find the entire hospital staff in proportion to the average number of patients in-door as one to two up to one to four, and this being the case I fear "little work" must be added as another characteristic of these new schemes. Concerning the expenditure a good deal might be said; but in some hospitals it actually costs more to keep up the staff than it does to maintain the sick and suffering poor. For the carrying out of these schemes we are told that a certain sum of money (generally very large) will be required; but it is never distinctly stated as to whether this sum will include the "uniforms" and board and washing of the staff. To get at an idea of the cost entailed by the carrying out of these economical schemes, we need only strike an average of the number of patients daily in the hospital (found by dividing the number admitted during the year by 12), and allow, say, £23 per patient per annum, and multiply this by the daily average of patients, and we get the cost of maintaining the patients; then by subtracting this sum from the total expenditure we get the expense incurred by keeping up the so-called efficient staff. Of course allowance must be made for gas bills and other smaller items. I venture to say, Sir, that if this mode of calculation be applied to most of the hospitals in which these novel schemes are carried out *ad ultimum extremum*, we shall find that it costs nearly as much to keep up the staff as it does to maintain the patients; in other words, that nearly half of public and private charity goes into the pockets of the staff. What, then, are the merits of such schemes? A good deal has been written and said regarding the benevolent and self-denying propensities of the "Florence Nightingales" of our day. But what is surprising is that these nurses, who are said to be so fond of devoting their attention to the comforts of others, cannot be of service to themselves, even with the aid of patent wringers, mangles, &c., with which hospitals are provided; but it is a fact which the directors of these institutions do not think it their duty to enter as a separate item—to wit, that experienced laundresses and able-bodied washerwomen are kept upon the premises ostensibly for the patients, but actually to keep these benevolent ladies tidy. Apparently the newest schemes seem to have for their object (besides that for the benefit of the patients) that of crowding our institutions with a—shall I say unnecessarily—large staff; and now that some of our hospitals are getting too small to accommodate the whole of the staff required for these schemes, "homes" are to be provided for nurses at public expense.

I will leave your readers to judge as to whether charity so applied is not being devoted to the comforts of the nurses rather than to those of the patients, for which purpose the money was originally contributed.

Yours truly,

May, 1876. ECONOMY.

Emigrant, (Manchester.)—The climate, for the tropics, may be said to be healthy. The temperature never exceeds 90°, and the heat is tempered by a prevailing sea breeze. Singularly enough, the mortality from phthisis is somewhat great among Europeans and natives. All things considered, it is perhaps as favourable to European life as any in the group.

THE letter of *Dr. E. Davies* (Wrexham) arrived too late for insertion this week.

Enquirer at Rugeley should apply to a wholesale druggist.

WRITING "AT THE PUBLIC."

THERE is so much medical writing avowedly for the profession, but really "at the public," with a view to charm and if possible to captivate lay readers, that we can scarcely be surprised to find the organs of popular lay opinions expressing a judgment as to the mode in which they prefer to have their medical report served up. The *Daily Review*, an Edinburgh newspaper, has been trying to criticise a work recently noticed in our columns, Dr. George Balfour's "Clinical Lectures on Diseases of the Heart and Aorta." The reviewer seems to have suffered severely in the performance of his task, and it may be hoped he will not again be tempted to step out of his vocation. "Nothing," he laments, "but the duty imposed upon us by conscientious reviewing could have dragged us through this dull and often obscurely written volume." Lay journalists have no duty of "conscientious reviewing" imposed on them in regard to books written for the profession. This is eminently true of Dr. Balfour's Clinical Lectures. They are addressed to medical readers, not aimed "at the public." If the *Daily Review* thinks the book "dull," this is not in the least degree astonishing. Works written for the professors of a craft are apt to appear "dull and often obscurely written" to those who do not understand them.

L.R.C.S.I.—A good account will be found in Reynolds's System of Medicine.

SALICYLIC ACID IN ACUTE RHEUMATISM.

To the Editor of THE LANCET.

SIR,—I have just had three cases of acute rhehmatism under treatment, a brief description of which may be of interest.

The first was a servant-girl, eighteen years of age. She had been ailing for some time, and felt great difficulty in doing her work. The attack commenced with pain in both feet; the knees and the left wrist and hand were swollen and painful on the second day. There was great depression and want of power from the first. The treatment adopted was large doses of bicarbonate of potash; but no improvement taking place, salicylic acid was given in seven and a half grain doses every hour. Previous to this the pulse was weak and rapid, the temperature ranging from 101° to 102°. After taking the third dose of the acid the pains became less acute, and after one drachm, or eight doses, had been taken she was nearly free from pain in all the affected joints. The temperature fell to 100°, and the pulse to 104. The dose was increased to ten grains every hour, and after three doses she was perfectly free from pain, and able to move the joints with ease; the pulse was reduced to 84, and the temperature to 99°. In this state she was, on the sixth day of her illness, carefully removed to a hospital, and was no longer under my care.

The second case was that of a young man of seventeen. He was of a rather anæmic constitution, and had shortly before taxed his strength greatly by training for races, in which he was successful. I had recently read an account of Dr. Dyer's treatment of his cases of rheumatism with the tincture of the perchloride of iron, and I thought that this was just such a case where that treatment would be of value. The attack commenced in the feet, and soon extended to the knees and left wrist, as in the previous case. I gave the patient twenty minims of the tincture of perchloride of iron every three hours. On the third day the pains were very severe; there was great restlessness; the pulse 90, and weak; the temperature 103·7°. I felt that the remedy was not answering my expectation. It was therefore changed for ten-grain doses of salicylic acid every hour. After the third dose he was easier, and at the end of thirty-six hours he had no pain in the feet or knees, the left wrist and fingers only remaining slightly painful and stiff; the pulse was 76, and the temperature 101°. In another twelve hours he could move his limbs perfectly, and the wrist and fingers were free from pain. A remarkable fall took place both in the pulse and in the temperature, the pulse falling to 54, and very weak, and the temperature to 97·6°. The action of the heart, though weak, was perfectly normal. The acid was discontinued, and a more directly tonic treatment commenced. He wished to get up on the eighth day, but in the weakened state of his heart this was not permitted. The nurse who was sent for to attend upon him had great experience in rheumatic cases; and when she saw the patient she expected that her engagement would last at least six weeks, but at the end of the eighth or ninth day she was no longer required.

The third case was that of a young girl, aged sixteen, who had a sharp attack in her feet and knees. The salicylic acid was given at once, and on the third day she was absolutely free from pain, and wishing to sit up. The disease seemed to be instantly cut short by the acid.

In the first case burning of the throat was greatly complained of, and there was great tendency to sickness. A thin slice of lemon put into the mouth relieved the sickness, and drinking well-made barley-water moderated the burning of the throat. Neither of the other patients complained of these symptoms. This I attributed to a different mode of administration. I find it best to dissolve the acid (as advised by Reiss) in spirits of wine, in which it is easily soluble, and then add glycerine to about half of the bulk of the mixture. A drachm of concentrated aquæ carni removes all disagreeable taste, and no burning of the throat is complained of in the use of this formula.

Yours truly,
Marlborough, May 23rd, 1876. WALTER FERGUS, M.D.

Enquirer.—1. Hermann's Physiology.—2. Poincarré's or Vulpian's Leçons.—3. Fothergill's Maintenance of Health, and Smith's Practical Dietary.—4. Baillière, Tindall, and Co., King William-street, Strand.

Mr. Clover's letter shall be inserted next week.

Vindex, (Manchester.)—We do not know how a M.R.C.S. and L.S.A. can be prevented from calling himself "Doctor."

A. E. M.—Dunglison's Dictionary, published by Churchill.

VACCINE LYMPH FROM THE COW.

To the Editor of THE LANCET.

SIR,—Can any of your readers kindly inform me where I shall be able to obtain vaccine lymph from the cow? I shall look for an answer in your valuable journal.

Yours truly,
Halifax, May 22nd, 1876. A. JUKES, M.R.C.S., &c.

MR. M'ARDLE AND THE HEALTH OFFICIALS.

THE summary of the proceedings of the Liverpool Health Committee, published in the local journals, contains a communication from Councillor M'Ardle, and a discussion thereon, relating to the comments that appeared in our columns in connexion with the outbreak of diphtheria. It was impossible not to sympathise with Mr. M'Ardle under his bereavement; and desirous of removing any source of irritation under such circumstances, we inserted a communication that had been forwarded to us. When Mr. M'Ardle's letter to the Health Committee is compared, however, with the statement made in our columns, it does not seem to us that there are any "misstatements" in the latter or "contradictions" in the former. Meanwhile, we might venture to indicate that Mr. M'Ardle appears to be under a misapprehension himself as to the source whence our information was obtained. Still, as we have said, he has our sympathy and condolence in his affliction.

Dr. Clement Godson.—It shall be published, if possible, next week.

ERGOT IN PROLAPSUS UTERI.

To the Editor of THE LANCET.

SIR,—I read a letter in your impression of May 20th from Mr. Henry Bateman, on the use of Ergot in Prolapsus Uteri, with great interest; but my experience in the use of that drug in similar cases makes me feel doubtful of its permanent and general value. Mr. Bateman unfortunately omits stating whether the uterus, when he removed the pessary, remained *in situ* or not. That, of course, is most important; for, given that after removing the instrument the uterus did not descend, the cure by the ergot treatment is next to *nil*. Secondly, admitting the descent of the organ after the removal of the pessary, may not the local treatment be considered of some value in preventing the prolapsus? Alum is well known to be a most powerful astringent, not only to the profession, but is commonly used by prostitutes on account of that property. Many use it to so great an extent that the vaginal walls and sphincter are in a state of chronic contraction. This I am certain is generally the cause of the vaginismus one so frequently meets with in prostitutes, and which is wrongly ascribed to over-indulgence in coitus. I have for more than four years used the liquid extract of ergot in nearly every case of prolapsus that has been under my care during that period, always bearing in mind that the uterus and vagina always contract most powerfully when full. When the prolapsus is only partial, and the uterus does not protrude through the vulva, the treatment is to ensure as much rest as possible, and, when the patients will do it, lying with the buttocks higher than the shoulders, the constant use of cold lead lotion, a small ball of cotton-wool well saturated in tannin and glycerine introduced each night by the patient into the vagina, and withdrawn, by a piece of string attached, in the morning; the bowels being well regulated by the use of medicine or enemas accordingly as either are demanded. After about fourteen days of this treatment, ergot is exhibited, and a large wax-and-tannin round bougie is introduced into the vagina, and left there, a piece of tape being attached. Great care is taken to watch any symptoms of gastric disturbance, so frequent in the continued use of ergot. Where the uterus actually protrudes, I take the additional precaution of introducing a ring pessary during the preliminary treatment, and withdrawing it before using the bougie and ergot, which are withdrawn when the ergot is discontinued; and I must confess I have found little or no benefit from the ergot, except in cases where the prolapsus has come under treatment shortly after getting up from childbed; in fact, in cases where there is improper involution and laxity of the parts, and in such cases the ergot treatment has been brilliant.

Though I may seem to be going wide of my subject, I cannot help saying a few words on the prolonged use of pessaries in prolapsus. Several times I have had cases that have been to all intents and purposes cured by wearing a ring pessary that I have removed every fourteen days and readjusted; and when I have wished them to be discontinued, the patients, feeling comfortable, insist on wearing them. They find, however, that in twelve to eighteen months a serious discharge has occurred, with bearing-down pains, and that on the withdrawal of the pessary the prolapsus has returned, and all former benefit has vanished.

I shall be glad to learn what other and better men may find by using ergot; but I certainly can advise them not to be too sanguine, and use great care to prevent gastric irritation from prolonged exhibition of the drug.

Faithfully yours,
Staunton-on-Wye, Hereford, May, 1876. PETER GILES Jun.

Subscriber, (Leicester.)—Messrs. Churchill, New Burlington-street, have published a work of the kind alluded to, which would afford the information.

Jacobus.—We should think not; but the simplest way would be to ask the question officially.

Sir Charles Trevelyan is thanked for his courteous note.

HOMŒOPATHIC (?) PRACTICE.

To the Editor of THE LANCET.

SIR,—On visiting one day last week an epileptic patient of mine, who had sent for me on account of an attack of measles, in course of conversation I asked, "How about the epilepsy now?" Patient's mother replied, "Oh! I've taken her to the homœopathe, and she has been taking medicine prescribed by one of them." I asked to see the prescription, of which I took a copy. It is as follows:—

"℞ Ammon. Bromid., ʒii.
Potass. Brom., ʒi.
Aquæ, ʒvi.
Sig. Two teaspoonfuls to be taken in half a glass of water at night, and half as much between ten and eleven in the morning."

The prescription was stamped as having been made up by a homœopathic chemist. On analysing the prescription you will observe that the night dose consists of twenty grains of bromide of potassium and five grains of bromide of ammonium—i. e., twenty-five grains of bromide for a dose. This is an illustration of the deceptions that are practised on the unwary public. I make no objection at all to the treatment when administered in a fair way; but when adopted under the cover of homœopathy, it shows at once how little faith in their system the supporters of homœopathy possess.

Yours faithfully,
May 29th, 1876. M.D.

MRS. MARGARET COLLETT ON UNNECESSARY INQUESTS.

MRS. MARGARET COLLETT suggests that her recent election as a guardian of St. Pancras may give weight to her opinion as to the frequency of unnecessary inquests. We would suggest to Mrs. Collett that the great quality which gives weight to opinion is experience, and that it would be well for her to acquire a little more of this before she ventilates her views as to the necessity of a check being brought to bear upon the discretionary power of persons pecuniarily interested in post-mortem examinations upon deceased paupers. Mrs. Collett rushes into print soon after her election with little of the care which accompanies good judgment, or of the modesty which we expect in guardians of her sex. This is not just the time to talk of unnecessary post-mortems, when evidence is pouring in from all quarters of the utmost carelessness in the conduct of medico-legal inquiries by coroners, who are rebuked by their own juries. The medical profession has no interest in unnecessary post-mortem examinations.

D., (Hereford.)—From either of the makers named.

SUPPLEMENTARY APPENDIX VERMIFORMIS.

To the Editor of THE LANCET.

SIR,—Will you or any of your readers inform me whether it is of frequent occurrence to find an extra appendix vermiformis?

On the 23rd inst. I made a post-mortem on a boy, aged eleven years, who had died suddenly with symptoms of obstruction of the bowel, followed by enteritis, when I found attached to the ileum an appendix between four and five inches in length, greatly inflamed and distended, and which upon section was found to contain a quantity of grumous-looking matter and a few small particles of ground horsebeans and husks, of which the boy had been seen to partake two days previous. Yours truly,

Whitstable, May 24th, 1876. J. W. HAYWARD.

*** We are not aware of any recorded example of an extra appendix vermiformis; but from the description given by our correspondent it is evident that the diverticulum in question is not to be considered as such. The mere fact of its connexion with the ileum is sufficiently conclusive evidence on this point. On the other hand, diverticula from the ileum of the character described are of not infrequent occurrence, and are probably in some cases the remnant of the vitelline duct. Such diverticula may become the seat of an accumulation of fæces or some foreign substance, and inflammation and consequent perforation occur. A more complete account of the exact position and relations of the diverticulum in the present case would be needed before forming any more definite opinion as to its origin.—ED. L.

POLLUTED DRINKING-WATER IN THE CITY.

DR. SEDGWICK SAUNDERS, medical officer of health for the City of London in a recent report, brings before the notice of the Commissioners a case of well-pollution in the following words:—

"My attention having been called to the fact that at the establishment of Messrs. Cassell, Petter, and Galpin, Belle Sauvage-yard, Ludgate-hill, the water pumped from a well sunk upon the premises is used for drinking by a large number of workpeople, I submitted samples of the same to analysis. The result of the four separate chemical examinations shows this water to be polluted with urine and sewage, as well as highly charged with mineral matters. It is therefore a most dangerous water for potable and cooking purposes, and, being very variable in the amount of its constituent parts, is liable to become at any time a source of the highest possible danger to health by inducing ailments of the zymotic class. I have, therefore, no alternative in the discharge of my public duty but to recommend that legal proceedings be at once issued with a view of closing so important a factor of disease."

The report was referred to the Sanitary Committee.

PHOSPHORISED COD-LIVER OIL.

To the Editor of THE LANCET.

SIR,—Now that phosphorised cod-liver oil is so generally and universally prescribed, it occurred to us (having been frequently asked by medical men and others the best method of dissolving phosphorus) that it might be useful to some to know the plan which we have usually adopted, and always found to answer well. It is as follows:—Take of pure unoxidised phosphorus, two grains; almond oil, two ounces. Put into a bottle, stopper it, and immerse the same in a water bath; apply heat until the temperature of the oil is about 180°, as directed by the British Pharmacopœia in the preparation of oleum phosphoratum; shake up occasionally, and put the bottle again into the water if necessary until a perfect solution is obtained; then add about ten ounces of cod-liver oil, and again immerse in the water bath; finally make up the measure with cod-liver oil to twenty-five ounces. One drachm so prepared will contain over one-hundredth of a grain of pure phosphorus. Yours faithfully,

Baker-street, W., May 22nd, 1876. YOUNG AND POSTANS.

Mr. W. George.—He can take as many clubs as he likes, and can legally charge for midwifery cases.

Mr. Rushton Parker.—Very soon.

THE ADMIRALTY AND NAVAL MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—The following is the latest circular from the Admiralty, dated 4th May, and is signed Vernon Lushington:—

"Lodging money while official residences are under repair: Admiral Superintendent, £4 4s. a week; Captain Superintendent, £3 3s. a week; principal and superior officers on salaries above £300 a year—namely, Inspector-General and Deputy Inspector-General of Hospitals who rank, the former with Admirals, and the latter with Captains, £2 2s. a week."

Yours &c.,

May 26th, 1876. NOT AN ADMIRAL OR CAPTAIN.

CORSICA AS AN INVALID RESORT.

To the Editor of THE LANCET.

SIR,—With your permission I would fulfil a duty which I believe I owe to members of my own profession and to many of their suffering patients by calling their attention to the island of Corsica as an invalid resort. Curiosity induced me to visit that island this spring. I say nothing here its general beauty, but confine my remarks to Ajaccio, than which no more delicious spot exists in Europe, and none which yields a better shelter from the severity of our northern climate. I have visited many such harbours of refuge, and feel inclined to class Ajaccio at the head of the list, *facile princeps*. There you never have the cold winds which pierce, and the clouds of dust which blind, and so often make Nice so intolerable. Here there are no cutting Tramontana winds, no equally disagreeable Bise; and, even in so peculiarly unsettled a winter and spring as the last has proved throughout Europe, the days were rare that even the most delicate person could not take exercise during one part of the day. Avoiding in this place more minute details, I may state that Ajaccio is built on the shores of one of the noblest bays and harbours in Europe; that it is open to the south-west; that the grand mountains which surround the bay do not approach so near to the town as to obstruct the rays of the morning sun or overshadow the houses; that there are several excellent hotels and numerous private apartments; that the climate is admirably adapted as a winter residence for persons with delicate chests, for nervous patients of both sexes, for ill-nourished lymphatic children, but that it is not suited for persons requiring a very bracing, stimulating atmosphere. The merits of the climate of Ajaccio may be best demonstrated by the following notes. Without selecting any very favourable season out of those of which I possess data, let us take the latest of these—namely, 1873-4. During the seven months from October, 1873, to April, 1874, both months inclusive, the maximum average temperature was at 7 A.M., 59° F.; at noon, 69° F.; from 8 to 9 P.M., 61° F. The minimum average temperature was at 7 A.M., 46·5° F.; at noon, 57·3° F.; from 8 to 9 P.M., 50° F. The maximum weight of the atmosphere shown by the barometer was, as compared with the minimum, only as 769 to 751; the moisture shown by Saussure's hygrometer varied from 60 to 75. Of the 213 days of the 7 months, 121 were perfectly fine, 36 sufficiently fine, 32 dull, and only 23 rainy, and even these 23 days not incessantly rainy. Perhaps, however, it ought to be stated that whilst transcribing these figures I was struck by the small number of rainy days, and, to verify my facts, referred to previous years, and found that 1873-4 had been unusually dry, and that 37, 30, 30, 39, and 47 had been the numbers of wet days during the corresponding period in the five previous years. South-west winds by day and north by night are the prevailing winds. South-west and north-west gales seldom blow longer than thirty or forty hours. North-east winds, during the prevalence of which snow may be falling in the northern part of the island and amongst the mountains, although naturally the coldest wind which reaches Ajaccio, is usually gentle, if cold. It is the south by east wind, the Sirocco, which alone is unpleasant, and that even, when prevailing, shifts to south-west towards evening. The Sirocco blows on an average from eleven to twelve days during the seven months. The soil is porous, and speedily absorbs any rain that falls. The only two winter and spring invalid stations which at this moment I have it in my power *partially* to compare with Ajaccio are Funchal, in Madeira; and Mentone, on the Riviera. The average temperature for the whole year at Funchal is, I find, 64·7° F.; that of autumn, from 67·5° to 66·5°; of winter, 57·5° to 60·5°; that of spring, 62·5° to 64·5°. F. Turning to Mentone, we find the average of the autumn, 50° to 64·5°; of the winter, 41° to 55·5°; and that of spring, 53·5° to 70° F. These figures do not furnish the means of very conclusive comparison, being very simple, requiring explanation; but they are all that at the moment I can find. The range of temperature at Ajaccio is wonderfully small, and this quality, above all others, constitutes a good climate for invalids. More need not be said then in favour of the climate of Ajaccio. Figures, when authentic and well tested, are stubborn facts, and I hope the figures I have given may be investigated by others. I am convinced that Ajaccio might be made one of the most useful and salutary of invalid resorts. What is at present wanted is capital. The Corsicans themselves admit very honestly that they are impecunious. I have heard them over and over again acknowledge this in conversing together. It would be a philanthropic as well as a lucrative way of applying British surplus capital were a Company to establish itself in Ajaccio. The solid foundations of a very large hotel await them there, having one of the most charming sites in Europe. It was commenced before the Franco-German war, and has never since been proceeded with. If a rich Company were to complete this and others, introducing in the fitting up and furnishing all the comforts which invalids and families require—if they were to establish dairy and other pasture farms, so as to supply the town with milk, butter, &c. (for, strange to say, although the soil and climate are so superior that five cuttings of Lucerne grass can be taken off the land in one season, nevertheless all the best butter comes from France and Italy, and much of the beef which is consumed in the hotels is imported, and, so far as I know, all the milk in use is goats'),—a wealthy Company supplying all these deficiencies, while it enriched itself, would make the place a perfect paradise for invalids.

I would only further add that the island of Corsica yields numerous valuable mineral springs, some of which are not far from Ajaccio. The thermal springs are sulphureo-alkaline; the chalybeate are ferruginous-gaseous. The best of these are supplied with considerable freshness in bottles by the hotels and shops in the town, by one especially—the Orezzo chalybeate water. I had occasion to observe the beneficial effects produced. It is a valuable dietetic mineral water.

I propose to myself to prepare a more elaborate account of this fascinating place. Meanwhile I would simply state, in conclusion, that Ajaccio can be reached direct from Marseilles in from fourteen to twenty hours, and from Civita Vecchia less directly; that Bastia can be reached from Nice during a night, and from Leghorn in six hours; that at present only public conveyances pass from Bastia to Ajaccio (distance 100 miles); but if travellers multiplied, posting facilities would soon follow. The drive is superlative, the road passing for some miles through one of the celebrated Corsican pine forests.

It would give me great pleasure to furnish any further information either to medical men, invalids, or speculators, for which reason alone it is that I beg to subjoin my name and address.

I remain, Sir, yours truly,

JAMES JOHNSTON, M.D.

The Hill, Cretown, N.B., May 22nd, 1876.

ALUM, TANNIN, AND OXIDE OF ZINC IN STICKS.

WHEN these substances are to be carried into the neck or body of the uterus, they are liable to break and become troublesome. It has been attempted to incorporate them with glycerine, but unsuccessfully. M. Dequesnel is using gutta-percha, which he mixes with the medicinal substance by means of heat. Whilst the combination is still hot it is rolled into cylinders a few lines thick, which harden on cooling. It remains to be proved that the astringent effects are not hindered by the gutta-percha.

L.R.C.P. Lond.—Our correspondent is right. There are many indications that the factory medical service will become of considerable value to the profession. The appointment of factory surgeon is now sought after, and is fairly remunerative. In the very able address delivered by Dr. Arlidge last year before the Association of Certifying Medical Officers, the whole question of the sanitary and medical aspects of the factory laws was treated. Those interested in the subject cannot do better than read the address which has been published by the Association.

Mr. R. S. Mutch.—1. Dr. Eustace Smith's book on the Diseases of Infants and Children.—2. Dr. Sydney Ringer's Handbook of Therapeutics.

Dr. C. Bell Taylor.—Declined, with thanks.

Messrs. Kirby's samples of phosphorus pills have been received. We will give them an early examination.

W. L. must refer to our back numbers.

A CERTIFICATE.

To the Editor of THE LANCET.

SIR,—Enclosed is a note given by a druggist to a patient of mine. In this instance the secretary of the club refused the *certificate;* but similar ones from druggists are frequently accepted by club officials here.

Yours &c.,

Sheffield, May 24th, 1876. EDWARD BARKER.

"This is to certify that Mr. Charles Royston has happened a severe accident by a fork penetrating his left hand, which will render him unable to work for a week or more. Yours respectfully,

"To Mr. Shemeld." "J. J. RIDING.

COMMUNICATIONS, LETTERS, &c., have been received from — Dr. Wiltshire, London; Prof. Rutherford; Dr. Yeo, London; Mr. Cowell, London; Mr. De B. Griffith, Taunton; Mr. Odell, Hertford; Mr. Bellamy, London; Mr. Muir, Edinburgh; Mr. F. Jordan, Birmingham; Dr. Bucknill-Glasgow; Mr. Noble, Lambeth; Mr. Godson, London; Dr. Maclagan, Dundee; Dr. Blythman, Swinton; Mr. Clover, London; Mr. G. Brown, London; Mr. J. F. Smith, London; Mr. Forbes, London; Mr. Harrison, Liverpool; Dr. Hooper, London; Mr. Robottom, Solihull; Mr. Morton, London; Dr. Rose, R.N.; Major Burgess, London; Mr. Marsh, Hammersmith; Surgeon-Major Ferguson, Dunbar; Mr. H. Jordan, Queensland; Messrs. Nicholls and Leatherdale, London; Dr. Morris, Baltimore, U.S.; Mr. Eccles, London; Mr. Cresswell, Ramsgate; Mr. Tomalin, Northampton; Mr. Muncey, Camberwell; Dr. Buchanan, Glasgow; Mr. Coates, Sirhowy; Mr. Wright, Glasgow; Dr. Taylor, Nottingham; Mr. Browne, West Brownwich; Mr. Rowlands, New Brighton; Mr. Mutch, Leicester; Mr. Powis, Birmingham; Mr. Hawkins, London; Mr. Macewen, Glasgow; Mr. Dukes, Rugby; Mr. Revell, Leicester; Mr. Carpenter, Kensington; Mr. Parker, Liverpool; Mr. Collie, Homerton; Dr. Snagg, St. Vincent; Mr. Burns; Mr. Walker, Burton; Mr. Cotton, Chichester; Dr. Rolland, Newcastle-on-Tyne; Dr. Dudfield, Kensington; Mr. Reeves; Mr. Bamford; Miss Munn, Liverpool; Mr. Blackader; Dr. Skinner, Winchelsea; Mr. Palmer, Birmingham; Dr. Bodington, Kingswinford; Dr. Davies, Wrexham; Mr. Burton, Leicester; Dr. Ferguson, Bolton; Mr. Tomes, London; Mr. Petrie; Mr. Green, Truro; Mr. White, London; Dr. Dickson, Corbar Hill; Dr. Parkyn; Messrs. Kirby and Co., London; Dr. Wardell; Dr. Cordes, Paris; The Registrar-General of Edinburgh; A. E. M.; An Enquirer; A Country Subscriber to the Report; Vindex, Manchester; B., Hereford; A Chemist; An Elder Student; Subscriber; F.; L. W. C.; W. C. H.; Jacobus; E. B.; M.D. Edin.; An Assistant; Rusticus ab Rure; Carte; Unqualified Assistant; Box, Wakefield; Beta; Cave; M.D.; W. B.; W. L.; S. R.; &c. &c.

LETTERS, *each with enclosure,* are also acknowledged from — Mr. Legge, Aberdeen; Mr. Stenhouse, Glasgow; Miss Turner, Bedford; Mr. Sparke, Mansfield; Messrs. J. & H. Grace, Bristol; Messrs. Blackie & Beresford, Oswestry; Miss Pabst, Hanover; Mr. Holden, Hull; Mrs. Meredith, Addlestone; Dr. Oldham, West Hartlepool; Mr. Barroughs, Strefford; Mr. Fairbank, Wigan; Mr. Oliver, Stockton; Mr. Evans, Cardiff; Dr. Roberts, Ruabon; Dr. Pee; Mr. Leach, Sheffield; Mr. Eberle, Basingwold; Mr. Handsley, Alford; Mr. Kelly, Rhymney; Immediate; Alpha, Spennymoor; M.R.C.S. and L.S.A.; G. F. S.; A. D., Poplar; L.R.C.P.; C. B.; A. M. D.; K., Sydenham; Alpha, Lincoln; J. P., Weymouth; X. Y. Z., Beccles; Medicus, Dublin; A. H. R., Swansea; M. L.; Omega; Medicus, Willenhall; L. M., Ramsgate; K. A., Cambridge; Medicus; Assistant; The Secretary, Bristol General Hospital; A. B., Chorley; G. P., Uppingham; A. A. A., Brighton; M.R.C.S., Holloway; H. & G., Brixton.

Metropolitan, Birmingham Morning News, Newcastle Chronicle, Liverpool Post, Cork Constitution, Surrey Advertiser, East London Observer, Liverpool Courier, Islington Gazette, St. Leonards Independent, St. Pancras Gazette, Leeds Mercury, Isle of Man Times, and *Western Morning News* have been received.

METEOROLOGICAL READINGS

(Taken daily at 9 a.m. by Steward's Instruments.)

THE LANCET OFFICE, JUNE 1st, 1876.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 9 A.M.
May 26	29·82	W.	48	50	66	56	44	003	Raining
„ 27	29·80	N.W.	51	54	86	62	46	004	Overcast
„ 28	30·22	N.W.	53	59	99	66	50	...	Hazy
„ 29	30·24	N.W.	52	60	106	72	52	...	Hazy
„ 30	30·14	W.	51	57	106	70	48	...	Bright
„ 31	30·08	N.	53	59	97	66	51	...	Overcast
June 1	30·28	S.E.	51	59	...	...	49	...	Bright

Medical Diary for the ensuing Week.

Monday, June 5.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. General Monthly Meeting.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. R. Brudenell Carter, "On Questions in Ophthalmic Surgery."

Tuesday, June 6.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. W. G. Adams, "On some of Wheatstone's Discoveries and Inventions."

Wednesday, June 7.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 3½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. R. Brudenell Carter, "On Questions in Ophthalmic Surgery."
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Abstract of Dr. Gervis's paper, "On a Case of Puerperal Septicæmia." — Dr. Wiltshire: "Notes of a Case of Puerperal Septicæmia and Phlegmasia Dolens; Recovery."—Dr. Braxton Hicks and Dr. Goodhart, "On the Displacement of the Uterus by Distension of the Bladder, as shown by Experiments on the Dead Body."—And other communications.

Thursday, June 8.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Prof. Tyndall, "On Voltaic Electricity."

Friday, June 9.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. R. Brudenell Carter, "On Questions in Ophthalmic Surgery."
ROYAL INSTITUTION.—8 P.M. Weekly Meeting.—9 P.M. Prof. Tyndall, "On the Parallel Roads of Glen Roy." (Close of the Season.)

Saturday, June 10.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Morley, "On King Arthur's Place in English Literature."

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can be forwarded only as book packets, and *prepaid* as such.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under ..... £0 4 6 | For half a page £2 12 6
For every additional line ... 0 0 6 | For a page 5 0 0

The average number of words in each line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

Agent for the Advertising Department in France—
Mons. DE LOMINIE, 208, Rue Grenelle St. Germain, Paris.